

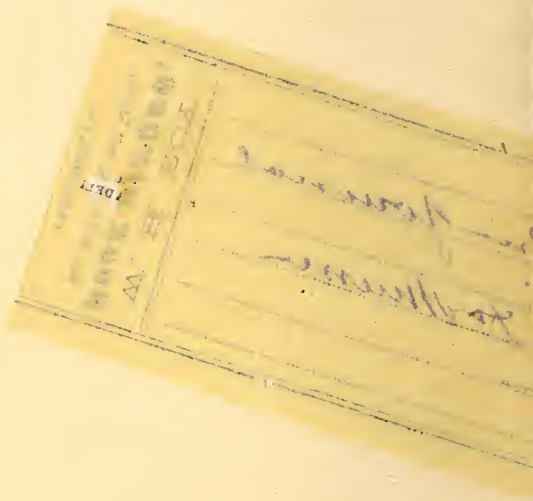


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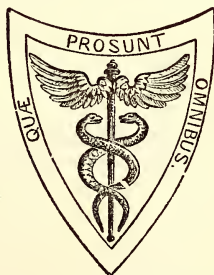


THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

EDITED BY
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ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,
&c. &c. &c.

NEW SERIES.

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TO READERS AND CORRESPONDENTS.

We must ask the indulgence of several correspondents whose communications have been postponed; they shall appear in our next. We have exceeded our limits in this number, counting the tables in their equivalent of pages, sixty-four pages; but the greater portion of this excess was required for the Quarterly Summary, which extends to nearly one hundred and forty pages. This department is considered so practically useful and instructive that we endeavour to render it as complete as possible, so that both in extent and variety it may compare with any other publications of a similar kind. The shorter periods at which this Journal appears, enables us to anticipate by several months, a large portion of the intelligence contained in the semi-annual publications of Braithwaite and Ranking, and the annual reports in the British and Foreign Medical Review, Dublin Medical Journal, &c., whilst these valuable works are carefully scanned as soon as published, and whatever of value is found in them of which the original accounts have not reached us, is at once taken and in a short time laid before our readers. The large amount of materials furnished for the summary by our extensive exchanges and by purchases, enables us to render this department very full, and especial attention will be given to make it as complete a digest as possible of all the improvements and discoveries in Medical Science.

The following works have been received:—

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. xxix. London, 1846. (From the Society.)

The Why and the Wherefore; or the Philosophy of Life, Health, and Disease. New and original views explanatory of their nature, causes, and connection; and of the treatment of disease upon a few general principles, based upon the laws of nature and common sense, with rules for the preservation of health and renovation of the system. The fruit of thirty years' observation and professional experience. By CHARLES SEARLE, M. D., M. R. C. S. E., and late one of the E. I. C., Madras establishment. London, 1846. (From the Author.)

Quarantine and the Plague. Being a Summary of the Report on these subjects recently addressed to the Royal Academy of Medicine in France. With introductory observations, extracts from Parliamentary correspondence and notes. By GAVIN MELROY, M. D., &c. London, 1846. (From the Author.)

An Anatomical Description of the Diseases of the Organs of Circulation and Respiration. By CHARLES EWALD HASSE, M. D., Prof. of Pathology and Clinical Medicine in the University of Zurich, &c., &c. Translated and edited by W. E. SWAINE, M. D., Phys. Extraord. to H. R. H. the Duchess of Kent. Philadelphia, Lea & Blanchard, 1846. (From the Publishers.)

Chemistry of the Four Seasons, Spring, Summer, Autumn and Winter. An essay principally concerning natural phenomena, admitting of interpretation by chemical science and illustrating passages of Scripture. By THOMAS GRIFFITHS, Prof. of Chemistry, &c. &c. Philadelphia, Lea & Blanchard, 1846. (From the Publishers.)

The Dog. By WILLIAM YOUATT. Edited, with additions, by E. J. LEWIS, M. D., Member of Acad. Nat. Sci. of Philada., of Philada. Med. Soci., Parisian Med. Soci., &c. Philadelphia, Lea & Blanchard, 1847. (From the Publishers.)

Encyclopedia Americana: Supplemental Volume. A Popular Dictionary of Arts, Sciences, Literature, History, Politics, and Biography. Vol. xiv. Edited by HENRY VETHAKE, LL. D., Vice Provost and Prof. of Mathematics in the Univ. of Penna., &c. &c. Philadelphia, Lea & Blanchard, 1847. (From the Publishers.)

A Treatise on the Diseases of the Air-passages. Comprising an Inquiry into the History, Pathology, Causes, and Treatment of those affections of the Throat, called Bronchitis, Chronic Laryngitis, Clergyman's Sore Throat, &c. &c. By HORACE GREEN, M. D., &c. &c. New York, 1846. (From the Author.)

New Remedies. By ROBLEY DUNGLISON, M. D. Fifth edition, with extensive additions. Philadelphia, Lea & Blanchard, 1846. (From the Publishers.)

Special Anatomy and Histology. By WM. E. HORNER, M. D., Prof. Anat. in the Univ. of Penna., &c. &c. In two volumes. Seventh edition, with numerous illustrations. Philadelphia, Lea & Blanchard, 1846. (From the Publishers.)

Minor Surgery; or, Hints on the Every Day Duties of the Surgeon. By HENRY H. SMITH, M. D., &c. Second Edition, with numerous additions. Illustrated by

227 engravings. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1846. (From the Publishers.)

Adulterations of Various Substances used in Medicine and the Arts, with the means of detecting them. Intended as a Manual for the Physician, the Apothecary, and the Artisan. By LEWIS C. BECK, M. D., Prof. of Chemistry in Rutgers' College, &c. &c. New York, S. S. & W. Wood, 1846. (From the Publishers.)

Lectures on Natural and Difficult Parturition. By EDW. WM. MURPHY, A. M., M. D., Prof. of Midwif. Univ. Coll. London, &c. &c. New York, S. S. & W. Wood, 1846. (From the Publishers.)

Summary of the Transactions of the Philadelphia College of Physicians. From Sept. to Nov., 1846, inclusive. (From the College.)

An Introductory Lecture on the Reciprocal Obligations of the Medical Profession and Society. By JOHN P. HARRISON, M. D., Prof. Mat. Med. in Med. Coll. of Ohio. Nov. 2, 1846. Cincinnati, 1846. (From the Author.)

Small Books on Great Subjects.

No. VI. A Brief View of Greek Philosophy from the age of Socrates.

No. XI. Christian Sects in the Nineteenth Century, in a Series of Letters to a Lady. Philadelphia, Lea & Blanchard, 1846. (From the Publishers.)

Address delivered at the Opening of the New Medical College in North Grove Street, Boston, Nov. 6th, 1846. By HON. EDWARD EVERETT, LL. D., and the Introductory Lecture, by GEORGE HAYWARD, M. D. Boston, 1846. (From Prof. Hayward.)

Prize Essay on Scrofula; submitted to the Medical Society of Tennessee, May, 1846. By W. L. SUTTON, M. D., of Georgetown, Ky. Louisville, 1846. (From the Author.)

Medical Education in the United States: an Address delivered to the Students of the Philadelphia Association for Medical Instruction, at the close of the Session of 1846. By ALFRED STILLE, M. D., Lecturer on Pathology and the Practice of Medicine. Philadelphia, 1846. (From the Author.)

Chemical Examination of the Urinary Calculi in the Museum of the Medical Department of Transylvania University; with remarks on the relative frequency of Calculus in Lexington, Ky., and its probable Causes. By ROBT. PETER, M. D., Prof. Chem. and Pharm. in Trans. Univ. (From Western Lancet, vol. v., No. 4.) Lexington, 1846. (From the Author.)

The Prescriber's Pharmacopœia; containing all the Medicines in the London Pharmacopœia, arranged in classes according to their action, with their composition and doses. By a Practicing Physician. Altered to correspond with the U. S. Dispensatory. Revised and improved by an American Physician. Second edition from the third London. New York, S. S. & W. Wood, 1846. (From the Publishers.)

Introductory Lecture, read at the commencement of the course. By S. HENRY DICKSON, M. D., Prof. of the Institutes and Pract. of Med. in the Med. Coll., State of South Carolina. (Published by the Class.) Charleston, 1846. (From the Author.)

Introductory Lecture to the Course on the Principles and Practice of Surgery in the Medical Department of Pennsylvania College. Session 1846-7. By DAVID GILBERT, M. D. Philadelphia, 1846. (From the Author.)

Lecture Introductory to the Course of Materia Medica and Pharmacy, in the Medical Department of Pennsylvania College. Session 1846-47. By HENRY S. PATTERSON. Philadelphia, 1846. (From the Author.)

Introductory Lecture delivered before the Class of the Medical Department of the St. Louis University. Session 1846-7. By HENRY M. BULLIT, M. D., Prof. of Phys. and Path. (Published by the Class.) St. Louis, 1846. (From the Author.)

Proceedings of the Ohio Medical Convention, held in Columbus, May 12th, 1846.

Fourth Annual Announcement and Catalogue for 1845-6 of the Rush Medical College, Chicago, Ill., 1846.

Annual Circular of the Medical Department of the University of Buffalo. Buffalo, 1846. (From the Faculty.)

Catalogue of the Medical Institution of Geneva College. Session 1845-6. (From the Faculty.)

An Address to the Class of the Medical College of Georgia, at the opening of the Session of 1846-7, containing a sketch of the improvements in Medicine during the present century. By L. A. DUGAS, M. D., Prof. Phys. and Path. Anat. (Published by the Class.). Augusta, 1846. (From the Author.)

Summary of the Transactions of the College of Physicians of Philadelphia. Vol. I., from Nov. 1841, to Aug., 1846, inclusive. Philadelphia, 1846. (From Committee of Publication.)

Code of Rules and Regulations for the Government of the Petersburg Medical Faculty. September, 1846. (From R. E. Robinson, M. D., Secy.)

Reply to "A Plain Statement of Facts."

Inhalation of Ethereal Vapour, for the Prevention of Pain in Surgical Operations. By JOHN C. WARREN, M. D. (From the Author.)

Handbuch der allgemeinen und speciellen Chirurgie. Von DR. A. WERNHER, Prof. der Chirurgie, Director des Chirurgischen Klinikums an der Universität zu Giessen. Giessen, 1846. (From Dr. Oppenheim.)

Chirurgischer Almanack, für die Jahre 1844 und 1845. Von F. ERNST BAUMGARTEN, Dr. Med. und Chir., &c., 1845. (From Dr. Oppenheim.)

Schets der Algemeene Therapie, als Leidraad bij het onderwijs, ontworpen door. G. Ph. F. GROSHANS, M. D. Amsterdam, 1846. (From Dr. Oppenheim.)

Bedenkengentegen het "ontwerp van wet op de nitoeffening der takken van de genuskunst." Door G. Ph. F. GROSHANS, M. D. Rotterdam, 1845. (From Dr. Oppenheim.)

De Rationibus Physiologicis et Pathologicis Humoribus aquei oculi humani Commentationem. Scripsit HENRICUS LEHMAN, Lecent. Med. Pars. Prior. Havniæ, 1846. (From Dr. Oppenheim.)

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La Lancette Française, Gazette des Hopitaux Civils et Militaires. No. 26 to 119 inclusive—3d March to 10th Oct., 1846. (In exchange.)

Revue Médicale Française et Etrangère, Journal des Progrès de la Médecine Hippocratique. Par J. B. CAYOL, Ancien Professeur de Clinique Médicale, &c. &c. Feb., March, April, May, June, July, Aug., 1846. (In exchange.)

Annales de Thérapeutique Médicale et Chirurgicale et de Toxicologie. Publiées par M. le DOCTEUR ROGNETTA. April, May, June, July, Aug., Sept., Oct., 1846. (In exchange.)

Journal des Connaissances Médicales Pratiques et de Pharmacologie. Feb., March, May, June, July, Aug., Sept., 1846. (In exchange.)

Journal de Médecine et de Chirurgie Pratiques à l'usage des Médecins Praticiens. Par LUCAS CHAMPIONNIERE, M. D., &c. March, April, May, June, July, Aug., Sept., Oct., 1846. (In exchange.)

Journal de Médecine. Par M. TROUSSEAU. Aug., Sept., Oct., 1846. (In exchange.)

Journal de Chirurgie. Par M. MALGAIGNE. Aug., Sept., Oct., 1846. (In exchange.)

Annales Médico-Psychologiques, Journal de L'Anatomie, de la Physiologie et de Pathologie du Système Nerveux. Par les DOCTEURS BAILLARGER, CERISE et LONGET. Sept., Nov., 1845. Jan., March, May, July, Sept., 1846. (In exchange.)

Journal des Connaissances Médico-Chirurgicales. Par MM. J. LE BAUDY, H. GOURAUD et MARTIN LAUZER. March, April, May, June, 1846. (In exchange.)

Journal de Pharmacie et de Chimie, Contenant le Bulletin des travaux de la Société de Pharmacie de Paris, et de la Société d'Emulation, et suivi d'un compte rendu des travaux de Chimie. March, April, May, June, July, Aug., Sept., Oct., 1846. (In exchange.)

The London Medical Gazette, or Journal of Practical Medicine and the Colateral Sciences. Sept., Oct., Nov., 1846. (In exchange.)

The Medico-Chirurgical Review and Journal of Practical Medicine. Oct., 1846. (In exchange.)

The Edinburgh Medical and Surgical Journal. Oct., 1846. (In exchange.)

The British and Foreign Medical Review, or Quarterly Journal of Practical Medicine and Surgery. Edited by JOHN FORBES, M. D., &c., &c. Oct., 1846. (In exchange.)

Guy's Hospital Reports. Second Series. Edited by G. H. BARLOW, M. D., E. COOK, Esq., E. L. BIRKETT, M. B., and A. POLAND, Esq. Vol. IV. (In exchange.)

Monthly Journal of Medical Sciences. Oct., Nov., 1846. (In exchange.)

Provincial Medical and Surgical Journal. Edited by R. J. N. STREETEN, M. D. Sept., Oct., Nov., 1846. (In exchange.)

The Medical Times. Sept., Oct., Nov., 1846. (In exchange.)

Dublin Medical Press. Sept. Oct., Nov., 1846. (In exchange.)

The British American Journal of Medical and Physical Science. Edited by Drs. HALL and MACDONNELL. Oct., Nov., 1846. (In exchange.)

Transactions of the China Medico-Chirurgical Society, for the Years 1845-6. Vol. I. Victoria Hongkong, May 1, 1846. (From the Society.)

Zeitschrift für die Gesammte Medicin mit Besonderer Rücksicht auf Hospitalpraxis und Ausländische Literatur. Herausgegeben, von F. W. OPPENHEIM. April, May, June, July, 1846. (In exchange.)

Adolph Henke's Zeitschrift für die Staats-arzneikunde Fortgesetzt. Von Dr. SIEBERT. Nos. 1 and 2, 1846. (In exchange.)

Archiv für Syphilis und Hautkrankheiten mit Einschluss der nicht-syphilitischen Genital affectionen in Verbindung, mit Herrn Dr. H. A. Hacker, in Leipzig, Dr. J. Rosenbaum, in Halle, und Dr. Fr. A. Simon, in Hamburg. Herausgegeben, von Dr. F. J. BEHREND. Bd. I. H. 1. Berlin, 1846. (From Dr. Oppenheim.)

Bijdragen tot Geneeskundige Staats-regeling. Deel III. Amsterdam, 1845. (From Dr. Oppenheim.)

Nieuw Archief voor Binnen-en Buitenlandsche Genuskunde in haren Gehulpen omvang. Door Dr. G. VAN DEEN. 1 Deel, 3 and 4 stuk. (From Dr. Oppenheim.)

The Western Journal of Medicine and Surgery. Edited by Drs. DRAKE, YANDELL and COLSCOTT. Oct., Nov., Dec., 1846. (In exchange.)

The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum. Utica, Oct., 1846. (In exchange.)

The American Journal of Pharmacy. Published by authority of the Philadelphia College of Pharmacy. Edited by JOSEPH CARSON, M. D., &c. Oct., 1846. (In exchange.)

Stockton's Dental Intelligencer. Oct., Nov., Dec., 1846. (In exchange.)

The American Journal and Library of Dental Science. Sept., 1846. (In exchange.)

The New York Dental Recorder. Edited by J. S. WARE, M. D., Dentist. Oct., 1846. (In exchange.)

The St. Louis Medical and Surgical Journal. Edited by Drs. LINTON, M'PHEETERS and FOURGEAUD. Sept., Nov., 1846. (In exchange.)

St Louis Medical and Surgical Journal. Extra.

Southern Medical and Surgical Journal. Edited by Drs. EVE and GARVIN. Oct., Nov., Dec., 1846. (In exchange.)

The Missouri Medical and Surgical Journal. Edited by THOMAS BARBOUR, M. D., &c. Sept., Oct., Nov., 1846. (In exchange.)

The Medical Examiner and Record of Medical Science. Edited by R. M. HUSTON, M. D. Oct., Nov., Dec., 1846. (In exchange.)

The Bulletin of Medical Science. Edited by JOHN BELL, M. D., &c. Oct., Nov., Dec., 1846. (In exchange.)

The Boston Medical and Surgical Journal. Oct., Nov., Dec., 1846. (In exchange.)

The Annalist, a Record of Practical Medicine and Surgery. Edited by W. C. ROBERTS, M. D. Oct., Nov., Dec., 1846. (In exchange.)

Illinois and Indiana Medical and Surgical Journal. Edited by Drs. BLANEY, BRAINARD, HERRICK and EVANS. Oct., Nov., 1846. (In exchange.)

The American Journal of Science and Arts. Conducted by Prof. B. SILLIMAN and B. SILLIMAN, Jr., and JAMES D. DANA. Nov., 1846. (In exchange.)

The Southern Journal of Medicine and Pharmacy. Edited by Dr. J. L. SMITH and S. D. SINKLER. Nov., 1846. (In exchange.)

The New York Journal of Medicine and the Collateral Sciences. Edited by C. A. LEE, M. D. Nov., 1846. (In exchange.)

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THE
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FOR JANUARY, 1847.

ART. I.—*Table showing the mortality following the operation of tying the Iliac Arteries.* By GEORGE W. NORRIS, M. D., one of the Surgeons of the Pennsylvania Hospital.

IN the number of this Journal for July, 1845, I published a paper exhibiting the mortality following the operation of tying the subclavian artery, in which some of the difficulties of that operation—mistakes in diagnosis—accidents following it, and the causes of death, were principally dwelt upon. The tables now given were drawn out at the same time, and on a plan similar to that just mentioned, and will be found to include most of the recorded cases in which a ligature has been applied to the iliac vessels, either for the cure of disease, or the suppression of hemorrhage. In this as in all similar tables, the actual results are, I have no doubt, less favourable than they appear to be—unfortunate cases being, as is well known, less generally reported than successful ones, and in those recorded, any one who attempts to collect materials of a like character to those here presented, will have often to lament, that the comparatively unimportant steps of a simple procedure, are given and commented upon with great minuteness, while the dangers attendant upon it—the difficulties of diagnosis—and post-mortem appearances, are either passed slightly over, or altogether omitted.

No.	Surgeon.	Sex.	Age	Right or left side.	Disease.	Duration of disease.	Ligature separated.
1	Abernethy	Male	34	Right side	Secondary hemorrhage after ligature of femoral		
2	Abernethy	Male	40	Left side	Aneurism	11 weeks	about the 20th day
3	Abernethy	Female	40		Aneurism		about the 12th day
4	Freer	Male	27		Aneurism	4 months	16th day
5	Abernethy	Male	40		Aneurism		10th day
6	Tomlinson	Male	40		Aneurism	4 months	26th day
7	Goodlad	Male	41		Aneurism	3 years	16th day
8	Dorsey	Male	30	Right side	Aneurism	2 years	14th day
9	A. Cooper	Male	39	Right side	Aneurism	3 months	17th day
10	Delaporte	Male	60	Left side	Aneurism		
11	A. Cooper	Male	37		Aneurism		
12	A. Cooper	Male			Aneurism		
13	Ramsden	Male	75		Aneurism	of long duration	
14	Albert				Aneurism		
15	Bouchet	Male	55		Aneurism	4 years	17th day
16	A. Cooper	Male	27	Left side	Aneurism		17th day
17	Brodie				Aneurism		
18	Norman	Male	50		Aneurism	2 weeks	19th day
19	Mackesy	Male	50		Aneurism	1 year	11th day
20	Post	Male	41	Left side	Aneurism	3½ months	13th day
21	Lawrence	Male	40	Left side	Aneurism	2 weeks	24th day
22	Whitbridge	Male	19		Aneurism		16th day
23	Newbigging	Male	30	Right side	Aneurism in both groin and ham.	8 months	17th day
24	Delpech	Male	27	Left side	Aneurism		
25	Moulaud	Male	30	Right side	Aneurism		24th day
26		Male	30		Aneurism		
27	H. Cline				Aneurism		17th day
28	Soden	Male	56	Right side	Aneurism	4 months	16th day
29	Collier	Male	24	Right side	Aneurism from gun-shot	2 months	
30	Dupuytren	Male	45	Left side	Aneurism	14 months	16th day
31	Hicks	Male			Hemorrhage from a sloughing bubo		
32	Norman	Male	50	Right side	Aneurism	2 weeks	
33	Robertson	Male	38	Right side	Aneurism	5 weeks	12th day
34	Norman	Male	14	Left side	Secondary hemorrhage from wound		21st day
35	Cole	Male	29		Aneurism		19th day
36	Bond	Male	31	Right side	Aneurism	3 years	15th day
37	Wilmot	Male	32		Aneurism		31st day
38	Liston	Male	35	Left side	Aneurism	5 weeks	16th day

Date of operation.	Result.	Period of death.	Cause of death.	Work.
March, 1796	Died	8th day	Hemorrhage	Surgical Works, vol. ii., 1825.
October 24	Died	23d day	Sloughing of the sac	Surgical Works, vol. ii.
Oct. 11, 1806	Cured			Surgical Works, vol. ii.
Oct. 4, 1806	Cured			On Aneurism.
Feb. 25, 1809	Cured			Surgical Works, vol. ii.
Aug. 29, 1807	Cured			Lond. Med. and Phys. Journ., vol. xviii.
July 29, 1811	Cured			Edinburgh Med. & Surg. Journ., vol. viii., 1812.
Aug. 19, 1811	Cured			Eclectic Repertory, vol. ii., 1812.
June 22, 1808	Cured			Guy's Hospital Reports, vol. i., 1836.
Jan. 3, 1810	Died	14th day	Mortification of limb	Mems. de la Soc. Méd. d' Emulation, tom. vii.
Aug. 24, 1810	Cured			Med. Chirurg. Transacts., vol. iv.
Feb. 14, 1811	Died	10 weeks & 6 days after	Bursting of an aneurism of the aorta	Med. Chirurg. Transacts., vol. iv.
	Died	3d day	"Extreme debility"	Hodgson on the Arteries, p. 418.
	Died	less than 3 weeks	Mortification of limb, and patient died with symptoms of tetanus	Hodgson on the Arteries.
1812	Cured			Breschet's Trans. of Hodgson, tom. ii.
April 30, 1813	Cured			Med. Chirurg. Transacts., vol. iv.
Sept. 13, 1813	Cured			Hodgson on the Arteries, Med. Chirurg. Transacts., vol. x., 1819.
Oct. 18, 1813	Cured			Edin. Med. and Surg. Journ., vol. xi., 1815.
Jan. 4, 1814	Cured			American Med. & Phys. Register, vol. iv.
Jan. 11, 1814	Cured			Med. Chirurg. Transacts., vol. vi., 1815.
Jan. 8, 1815	Died	28th day	Mortification of limb	New England Journ., vol. iv.
March 13, 1815	Cured			Edin. Med. and Surg. Journ., vol. xii., 1816.
July 2, 1815	Died	10th day	Mortification of limb	Clinique Chirurgicale, tom. i., p. 38.
1815	Cured			Casamayor on Aneurism.
	Died	in 3d week	Mortification of limb	Hodgson on the Arteries, p. 198.
	Cured			Med. Chirurg. Transacts., vol. vi., 1815.
April 22, 1816	Cured			Med. Chirurg. Transacts., vol. vii., 1816.
Aug. 28, 1816	Died	3d day	Mortification of limb	Med. Chirurg. Transacts., vol. vii., 1816.
Oct. 15, 1816	Cured			Breschet's Trans. of Hodgson, tom. ii.
Jan. 22, 1817	Cured after amputation, made necessary in consequence of gangrene of limb			Hennen's Military Surg., 1829, p. 167.
April 6, 1817	Died	12th day	Peritonitis and sloughing of wound	Med. Chirurg. Transacts., vol. x.
July 24, 1817	Cured			Edin. Med. and Surg. Journ., vol. xiii., 1817.
Aug. 27, 1817	Cured after amputation, made necessary in consequence of gangrene of limb			Med. Chirurg. Transacts., vol. x.
1817	Cured			Casamayor on Aneurism.
June 6, 1818	Cured			Lond. Med. and Phys. Journ., vol. iv.
July 9, 1818	Cured			Dublin Hosp. Reports, vol. ii., 1828.
Nov. 6, 1819	Cured			Edin. Med. and Surg. Journ., vol. xvi., 1820.

No.	Surgeon.	Sex.	Age	Right or left side.	Disease.	Duration of disease.	Ligature separated.
39	Kirby	Male	34	Left side	Aneurism	3 months	15th day
40	Todd	Female	22		Aneurism	5 months	
41	N. Smith	Male		Left side	Aneurism	1 month	20th day
42	Todd	Male	28	Left side	Aneurism	7 months	21st day
43	Salmon	Male	29		Aneurism	10 months	21st day
44	Jameson	Male		Right side	Aneurism	6 months	
45	Key	Male	26	Right side	Aneurism	1 year	12th day
46	Stevens	Male			Secondary hemorrhage from punctured wound		22d day
47	Warren			Right side	Aneurism		19th day
48	B. Cooper	Male	49	Left side	Aneurism	2 weeks	
49	Arendt	Male	44		Aneurism		
50	Wright	Male	42	Left side	Inguinal and popliteal aneurisms	1 year	
51	Tait	Male	54	Right side	Aneurism	4 months	21st day
52	Tait	Male	54	Left side	Aneurism	14 months	42d day
53	Rogers	Male		Left side	Aneurism	4 weeks	
54		Male			Wounded artery		
55	Gibbs	Male	39		Hemorrhage from ulceration		13th day
56	Brodie	Male	33	Left side	Aneurism	3 months	
57	Randolph	Male	46	Right side	Aneurism	2 years	22d day
58	Daniel	Male	63	Right side	Aneurism	8 months	
59	Ewing	Male	37	Right side	Aneurism	7 weeks	62d day
60	Morrison	Male		Right side	Aneurism		15th day
61	Mott	Male	13	Right side	Diffuse femoral aneurism		34th day
62	B. Cooper	Male	44	Left side	Aneurism	3 months	22d day
63	Velpeau	Male	16		Wounded artery		17th day
64	Hall	Male	35	Left side	Aneurism	3 months	22d day
65	Guthrie	Male	28		Aneurism		28th day
66	Sinclair	Male	28	Right side	Aneurism	6 months	30th day
67	Guthrie	Male	27	Left side	Aneurism	3 months	
68	Smith	Male	40		Aneurism	19 months	30th day
69	Laidlaw	Male	40	Right side	Hemorrhage from a sloughing carbuncle		10th day
70	Ruan	Male	48	Right side	Aneurism	5 weeks	24th day
71	Macfarlane	Female	30	Right side	Secondary hemorrhage from wound		
72	Mirault	Male	36	Left side	Aneurism		
73	Morrison	Male	35	Left side	Varicose inguinal aneurism	11 years	
74	Warren	Male	56	Left side	Aneurism	4 months	
75	Morrison	Male	25	Left side	Aneurism		14th day
76	Hobart	Male	42	Left side	Aneurism	12 months	29th day
77	Hewson	Male	23	Right side	Hemorrhage following amputation		29th day
78	Liston	Male	45	Left side	Hemorrhage following amputation of thigh		17th day
79	Lallemant	Male	27		Varicose femoral aneurism	5 years	

Date of operation.	Result.	Period of death.	Cause of death.	Work.
Dec. 18, 1811	Cured			Surgical Cases, p. 101.
June 3, 1819	Died	15th day	Gangrene of the sac	Dublin Hosp. Reports, vol. iii., 1822.
July 25, 1820	Cured			Philada. Journ. Med. and Phys. Sci., vol. i., 1820.
Dec. 4, 1820	Died	21st day	Tetanus	Dublin Hosp. Reports, vol. iii., 1822.
Sept. 12, 1820	Cured			Med. Chirurg. Transacts., vol. xii., 1822.
May 6, 1821	Died	9th day	Mortification of limb	Philada. Med. Recorder, vol. v., 1822.
Sept. 28, 1822	Cured			Guy's Hospital Reports, vol. i. 1836.
March 12, 1822	Cured			N. Y. Med. and Phys. Journ., vol. i., 1822.
Feb. 18, 1823	Cured			New England Journ., vol. xii., 1823.
June 21, 1823	Died	27th day	Hemorrhage	Tyrrrell's Cooper, vol. ii.
1824	Cured			Philada. Med. Recorder, vol. vii., 1824.
Sept. 22, 1824	Cured			London Med. and Phys. Journ., vol. iv., 1823.
May 8, 1825	Cured			Edin. Med. and Surg. Journ., vol. xxvi., 1824.
April 16, 1826	Cured			Edin. Med. and Surg. Journ., vol. xxvi., 1824.
1826	Cured			Philada. Med. Recorder, vol. ix., 1826.
Nov., 1826	Cured			Gazette Médicale, 1833, p. 650.
Feb. 26, 1827	Cured			Lond. Med. and Phys. Journ., vol. v., 1827.
Feb. 21, 1828	Cured			Amer. Journ. Med. Sci., vol. ix., 1831.
Oct. 23, 1828	Cured			N. Amer. Med. and Surg. Journ., vol. 7, 1829.
Nov. 7, 1829	Died	11th day	Affection of the chest, probably diseased heart	Med. Chirurg. Review, vol. xi., 1829.
Jan. 3, 1831	Cured			Edin. Med. and Surg. Journ., vol. xxxvi., 1831.
Nov. 30, 1830	Cured			Amer. Journ. Med. Sci., vol. xix., 1836.
April 25, 1831	Cured			Amer. Journ. Med. Sci., vol. viii., 1831.
July 19, 1831	Cured			Lond. Med. and Phys. Journ., vol. xii., 1832.
Oct. 6, 1831	Cured			Journal Hebdomadaire, vol. vi., 1832.
Oct 7, 1831	Cured			Amer. Journ. Med. Sci., vol. x., 1832.
Nov. 19, 1831	Cured			London Med. and Phys. Journ., vol. xii., 1832.
April 3, 1832	Cured			Lancet, vol. ii., 1832-3.
Sept. 11, 1832	Died	3d day	Mortification of limb	London Med. and Phys. Journ., vol. xi., 1831.
May 21, 1833	Cured			Lancet, vol. ii., 1832-3.
May 17, 1835	Cured			Lancet, vol. i., 1835-9.
June 21, 1835	Cured			Amer. Journ. Med. Sci., vol. xviii., 1836.
Jan. 7, 1836	Died	in 3 hours		Hosp. Rep. of Glasgow, from 1835 to Aug 1836.
June 15, 1836	Cured			Mems. de l'Acad. Roy. de Méd., tom 7, 1838.
Nov. 5, 1836	Died	3d day	Mortification of limb	Amer. Journ. Med. Sci., vol. xxii., 1838.
Dec. 5, 1836	Died	2d day	Delirium tremens	Boston Med. and Surg. Journ., vol. xv., 1836.
March 12, 1837	Cured			Amer. Journ. Med. Sci., vol. xxii., 1838.
June 23, 1837	Cured			Edin. Med. and Surg. Journ., vol. i., 1838.
Aug. 22, 1837	Cured			Med. Chirurg. Transacts., vol. xxi., 1838.
March 16, 1838	Cured			Lancet, vol. ii., 1838-9.
May 24, 1838	Died	5th day	Hemorrhage	Gazette Médicale, No. xi., 1841.

No.	Surgeon.	Sex.	Age	Right or left side.	Disease.	Duration of disease.	Ligature separated.
80	Horner	Male	48	Right side	Aneurism	11 weeks	
81	Medoro	Male	33	Right side	Aneurism		19th day
82	Porter				Aneurism		
83	Bulchrens	Male	39		Hemorrhage from a wound		
84	Portal	Male	30	Right side	Hemorrhage from a sloughing bubo		
85	Dickson	Female	43	Left side	Aneurism	2 months	35th day
86	Mouret	Male			Secondary hemorrhage		17th day
87	Petrunti	Male	26		Aneurism		17th day
88	Monod	Male	57	Right side	Aneurism	4 months	
89	Thomson	Male	46	Left side	Hemorrhage following amputation		18th day
90	Baroni	Male	36		Varicose inguinal aneurism		19th day
91	Houston	Male	26	Left side	Aneurism	1 year	22d day
92	Peace	Male	28	Right side	Aneurism	4 months	30th day
93	Venturoli	Male	50	Left side	Aneurism		
94	Power	Male	61	Right side	Aneurism	15 months	
95	Bellingham	Male	32	Right side	Aneurism	3 months	24th day
96	Paul	Male	20		Hemorrhage following amputation		34th day
97	Boling	Female	20	Left side	Aneurism	3 weeks	23d day
98	Brainard	Male		Right side	Aneurism	12 weeks	23d day
99	Lisfranc	Male			Aneurism		
100	Taylor	Male	24	Right side	Aneurism	6 months	16th day
101	B. Cooper	Male	42	Right side	Aneurism	6 months	22d day
102	Duncan	Male	30		Aneurism	9 months	22d day
103	Shepherd	Male	48	Right side	Secondary hemorrhage after ligature of femoral		27th day
104	James	Male		Left side	Femoral and popliteal aneurisms		15th day
105	Busk	Male	30	Right side	Aneurism	8 months	19th day
106	Liston	Male		Right side	Aneurism foll. wound of a superficial branch of femoral	11 days	
107	Harrison	Male	32	Right side	Aneurism	3 or 4 years	
108	Kidd	Female	22	Right side	Aneurism	5 years	19th day
109	Gay	Male	48	Right side	Aneurism	3 years	18th day
110	Brodie	Male	31	Right side	Aneurism	3 weeks	25th day
111	Jno. Cooper	Male	57	Right side	Aneurism	6 months	42d day
112	Fowler	Male	30	Left side	Inguinal and popliteal aneurisms	3 years	
113	Malgaigne	Male	31	Left side	Aneurism	15 months	16th day
114	A. Cooper	Male	33		Aneurism		
115	Rousset	Male	21	Right side	Secondary hemorrhage		
116	Crosse	Male	31	Right side	Aneurism	upwards of 3 years	15th day
117	Crosse	Male	40	Left side	Aneurism	18 months	16th day
118	Crosse	Male		Right side	Aneurism	3 or 4 "	13th day

Date of operation.	Result.	Period of death.	Cause of death.	Work.
July 17, 1838	Died	5th day	Prostration	Amer. Journ. Med. Sci., vol. iv., 1842.
Aug. 27, 1838	Cured			Gazette Médicale, 1839, p. 586.
October, 1838	Died	4th day	Diffuse inflammation	On Aneurism, p. 121.
1838	Died	6th day	Mortification of limb	Gazette Médicale, 1839, p. 234.
1838	Died	4th day	Mortification of limb	Boston Med. and Surg. Journ., No. xxvi., 1839.
June 30, 1839	Cured			N. Y. Journ. of Med. and Surg., vol. i., 1839.
1839	Cured			Journ. de Conn. Med. Chir., June, 1839.
Oct. 18, 1839	Cured			Gazette Médicale, May, 1839, No. xix.
March 10, 1840	Died	7th day	Sloughing of sac	Archives Générales, 1840.
Feb. 11, 1840	Cured			Med. Chirurg. Review, July, 1841.
1840	Died	54th day	Hemorrhage	Archives Générales, 1840.
June 23, 1840	Cured			Dublin Journ. of Med., vol. xxii., 1842.
July 24, 1841	Cured			Philada. Med. Examiner, vol. v., 1842.
1841	Died		Mortification of limb	Annales de Chirurgie, tom. 3, 1841.
July 19, 1842	Died	5th day	Hemorrhage	Maryland Med. & Surg. Journ., vol. iii., 1842.
Aug. 26, 1842	Cured			Medical Examiner, Oct., 1842.
Aug. 31, 1842	Cured			Lond. and Edin. Monthly Journ., Feb., 1843.
Aug. 1, 1843	Cured			Amer. Journ. Med. Sci., vol. vii., 1841.
Feb. 24, 1843	Cured			Amer. Journ. Med. Sci., vol. vi., 1843.
May, 1836	Cured			Archives Générales, tom. xli., 1836.
1835	Cured			Amer. Journ. Med. Sci., vol. xviii., 1836.
Feb. 20, 1844	Cured after amputation, made necessary in consequence of gangrene of limb			Lancet, vol. i., 1844.
1845	Cured			Northern Journ. of Med., March, 1845.
Sept. 1, 1825	Cured			Midland Med. and Surg. Reporter, vol. i., 1825-9.
Aug. 16, 1843	Cured			Provincial Med. & Surg. Trans., vol. xii.
Jan. 19, 1845	Cured			Lancet, vol. i., 1845.
May 31, 1845	Died	35 hours after	Peritonitis	Lancet, 1845.
June 17, 1845	Died	8th day	Tetanus	London Med. and Surg. Journ., Oct., 1845.
Oct. 28, 1845	Cured			Dublin Medical Press, Jan., 1846.
Dec. 3, 1845	Cured			Lancet, vol. i., 1846.
May 30, 1839	Cured			London Med. Gazette, vol. i., 1846.
Feb. 3, 1846	Cured			Lancet, vol. i., 1846.
Sept. 2, 1839	Died	30th day	Mortification of limb	Lancet, vol. ii., 1846.
Feb. 11, 1844	Cured			Journ. de Chirurgie, 1846.
Aug. 19, 1816	Died	17th day	Hemorrhage	Roux's Parallel, p. 236.
Oct. 9, 1844	Cured			Journ. de Chirurgie, 1846.
June 7, 1818	Cured			Provincial Med. & Surg. Journ., Aug., 1846.
Sept., 1825	Cured			Provincial Med. & Surg. Journ., Aug., 1846.
Sept. 7, 1842	Cured			Provincial Med. & Surg. Journ., Aug., 1846.

Mortality.—Of the one hundred and eighteen cases included in the table, eighty-five recovered, and thirty-three died—three of the patients who recovered, undergoing amputation in consequence of gangrene of the limbs.

Sex.—Of one hundred and thirteen cases in which the sex is noted, one hundred and seven were males, and six females. Of the six females, five laboured under aneurisms, and one had secondary hemorrhage.

Right or left side.—Of seventy-nine cases in which the affected side is noticed, forty-four were on the right, and thirty-five on the left side.

Age.—The age is given in ninety-nine of the cases, of which number there were under

	20	4
between 20 and 30		23
“ 30 “ 40		32
“ 40 “ 50		25
“ 50 “ 60		11
“ 60 “ 70		3
above 70		1
		<hr/> 99

Disease or injury.—Of the one hundred and eighteen cases of operations given in the table, ninety-seven were done for the cure of aneurisms, eighteen in consequence of wounds or secondary hemorrhages, and three for the cure of varicose aneurisms. In four of the ninety-seven cases of aneurism, that disease existed simultaneously in both the ham and the front of the thigh, and in three of these the operation succeeded in curing both tumours.

Period the ligature separated.—This is noted in seventy-eight cases, in forty-four of which the ligature came away before the twentieth day, in twenty-four, between the twentieth and thirtieth days; in seven, between the thirtieth and fortieth days; and in three beyond the fortieth day. The earliest period at which the ligature came away, was the tenth day, and the longest time to which it remained, was the sixty-second day.

Return of pulsation in the tumour after the application of the ligature.—This occurred in nine cases. In one of these, (No. 18,) evident pulsation was noticed in the sac on the fifth day, which gradually ceased at the end of ten or twelve days, the patient recovering. In the second case, (No. 20,) pulsation returned in the tumour more than two months after the operation, and after a time ceased. In the third, (No. 23,) aneurisms existed both in the popliteal and inguinal regions. Pulsation in the ham entirely ceased upon the application of the ligature, but continued, though feebly, in the inguinal tumour; both aneurisms were ultimately cured. In the fourth, (No. 30,) pulsation reappeared, and remained till the forty-fourth day, the patient recovering. In the fifth, (No. 49,) slight pulsation was observed a few hours after the operation, and on the following day was so considerable, that compression was made on the artery, and

kept up so as to arrest it; the cure being complete. In the sixth, (No. 90,) which was a varicose inguinal aneurism, circulation through the tumour was observed to have returned on the third day, and the patient died after repeated hemorrhages, on the fifty-fourth day. In the seventh, (No. 94,) slight pulsation was noticed on the day following the operation, and the patient died on the fifth day of hemorrhage. In the eighth, (No. 104,) both femoral and popliteal aneurisms existed. On the day after the operation, both tumours were solid; no pulsation was perceived in the ham, but a slight tremulous motion was noticed in the groin. From this period, pulsation increased in the groin, and after a few days returned in the ham also, where, however, it soon entirely ceased. At the date of the report of the case, (about six months after the ligature of the vessel,) it continued in the groin, though very feebly. In the ninth, (No. 110,) the operation was done in the month of May, and the patient discharged cured in August, but was re-admitted in the following November, with a return of pulsation in the tumour. Pressure was employed for two months, after which he was again looked upon as cured. In November, 1841, a recurrence of pulsation was again noticed. In January, 1842, all pulsation had ceased, but the tumour had increased. In January, 1843, it became stationary, and some time after began to diminish in size, and so continued to do till July of the same year, when he died of phthisis. On post-mortem examination, the tumour was found to be connected with the superficial femoral artery immediately below its origin, was of the size of a full-grown fœtal head, and perfectly solid.

Hemorrhage after the operation.—This is stated to have occurred in fourteen cases; of these, seven died, and seven were cured. In Nos. 1, 79, 94 and 114, it took place on the fifth day, and in them all proved fatal. In the fourth and fifth cases, (Nos. 25 and 99,) hemorrhage once occurred in each, but the patients did well. In the sixth, (No. 30,) a considerable quantity of arterial blood escaped from the wound from the twenty-fourth to the thirtieth day, which was believed to come from the inferior end of the artery, and was successfully arrested by compression. In the seventh, (No. 34,) which was a case of hemorrhage from the upper and outer part of the thigh, the bleeding continued after the external iliac had been secured, and a ligature was placed on the femoral, which restrained it. The limb afterwards mortified, and was amputated, the patient doing well. In the eighth case, (No. 42,) the hemorrhage occurred at several intervals between the twenty-fourth and forty-third days after the operation, when a second ligature was placed on the vessel higher up than the first, but without success. In the ninth, (No. 48,) repeated hemorrhages occurred after the nineteenth day, and the patient died. In the tenth, (No. 77,) the artery was ligatured on the 22d of August, for hemorrhage following amputation; on the 28th, bleeding took place from the groin, which was restrained by pressure with a truss, and the patient cured. In the eleventh,

(No. 78,) the vessel was also tied for hemorrhage after amputation; ligature of the femoral having been first tried ineffectually. On the day following the operation, there was a slight return, which was arrested by pressure. In the twelfth case, (No. 90,) which was one of varicose aneurism, it took place on the fortieth day after the application of the ligature from the inferior end of the wound. On the forty-third day there was another frightful return of it, when the aneurismal tumour was laid open with a view of tying all the bleeding vessels; the loss of blood when this was done, was such as to make the operator fear the man would die on the table; he, however, lived eleven days. In the thirteenth, (No. 96,) the artery was tied to arrest hemorrhage from a stump, and more than six weeks after it, in consequence of a return of bleeding, it was again secured higher up than at first, and the patient cured. In the fourteenth, (No. 114,) it occurred on the seventeenth day, and proved fatal.

Suppuration of the sac.—In ten cases, the tumour is stated to have suppurated after the operation, all of which did well. In one of these, (No 16,) the integuments were in a state of mortification at the time of the operation, and on the twenty-third day after it, an incision was made into the tumour, and its contents evacuated. In another, (No. 75,) the tumour, which is stated to have been “of enormous size,” suppurated and was punctured on the 25th of March. On the 31st and 2d of April, hemorrhages occurred from it, and a fruitless effort was made to take up the profunda. On the 12th, the bleeding was renewed, and the actual cautery was applied. On the 14th, “apprehensive of another hemorrhage,” an effort was made to tie the internal circumflex without success, and the actual cautery was again resorted to. In a third, (No. 95,) where the ligature had been applied close to the bifurcation of the common iliac, the tumour discharged itself through the wound on the twenty-first day, and in No. 113 the same occurrence had taken place on the twenty-ninth day.

Gangrene of the limb.—This occurred in sixteen out of the one hundred and eighteen cases; three of which were cured after amputation, and twelve died. In one case, (No. 31,) the artery was tied on the 22d of January, mortification followed, which extended to the thigh, and on the 9th of February amputation was done close to the trochanter. In a second, (No. 34,) the ligature was applied August 27th, and the limb was amputated September 26th. In both of these cases the vessel was secured to restrain hemorrhage. In the third case, (No. 101,) the operation was done for femoral aneurism on the 20th of February. The ligature separated on the twenty-second day, and about a week after this occurred, gangrene was observed in the toe, and gradually extended up to within a short distance of the knee, where the limb was removed. These amputations were all successful. In one instance, (No. 61,) slight sloughing of the sole of the foot occurred from a bottle of hot water applied to the part.

Cause of death.—Of the one hundred and eighteen cases, thirty-three

died. Of these, six died from hemorrhage; three, from sloughing of the sac; thirteen, from mortification of the limb; one, from the bursting of an aneurism of the aorta at its bifurcation, ten weeks and six days after the operation; two, on the third and fifth days from prostration; two, of peritonitis; two of tetanus; one, on the eleventh day of some affection of the chest—probably diseased heart; one, on the second day, of delirium tremens; one, of diffuse inflammation, and in one, the cause is not noted.

Difficulties of, and accidents during the operation.—In two instances, (Nos. 20 and 51,) the peritoneum was wounded in the operation. Both patients recovered. In one, (No. 74,) the sac was accidentally wounded after the ligature was applied. In one, (No. 91,) a vein—the circumflex ilii—was a source of much embarrassment to the operator, who gives with his case a plate representing it.

Mistakes in diagnosis.—In four of the cases given in the table, (Nos. 22, 40, 67 and 88,) the tumours had been mistaken for abscesses and opened previous to the operation. Of these none recovered. In No. 106, the aneurism which followed a gun-shot wound, was supposed to arise from a wound of the femoral. Upon examination it was found that the ball did not pierce the fascia lata, but had passed altogether in the subcutaneous fat, and that the only vessel wounded was a superficial branch of the femoral artery, which was divided close under Poupart's ligament and nearly an inch from the main trunk.

Mr. Fergusson* mentions that he has seen “a most experienced and judicious surgeon cut through the parietes of the abdomen with the intention of tying the external iliac artery for a supposed aneurism where none existed.” This case is, I presume, that which has been recorded by Mr. Syme in one of his Surgical Reports in the Edinburgh Journal, and is well calculated to show the difficulty of diagnosis which is sometimes met with. The tumour which was stated to have followed a mis-step made some eight months before his presenting himself for examination, was situated in the right iliac region of a man aged 54. It was tense, pulsated obscurely throughout its whole extent, and offered a distinct bellows sound upon the application of the stethoscope. Believing that an aneurism existed, Mr. S. made an incision into the abdomen, six inches in length, with the intention of securing the external or common iliac, but when exposed, the tumour was found to be composed of a solid cerebriiform mass, and was taken away entire. Seven days after it the patient died, and on dissection, a chain of tumours similar in nature was found surrounding the great vessels on both sides.

INTERNAL ILIAC ARTERY.—I am aware of only seven instances in which this vessel has been ligatured. These were by Stevens, Atkinson, Thomas, White, Arendt, Mott, and J. K. Rodgers. Of these, three died, and four were cured. In all of them the operation was done for the cure of aneu-

* Elements of Surgery, p. 135. Amer. edit., 1845.

risms, and in one of them, (Mott,) although the peritoneum was opened in the efforts to separate it from the parts beneath, yet the patient did well.

COMMON ILIAC ARTERY.—Fifteen cases are recorded in which the operation of tying the primitive iliac has been performed. The first case in which it was done, was that of a gun-shot wound, in 1812, by Dr. W. Gibson, of this city. The patient died from peritoneal inflammation and secondary hemorrhage on the thirteenth day. The second case was that of Dr. Mott, for aneurism, in 1827, and was fully successful. The third was in 1828, by Mr. Crampton, also for aneurism, and was unsuccessful, the patient dying on the fourth day from hemorrhage. The fourth case was that of a boy, aged eight, in whom the common iliac was tied by Mr. Liston, in 1829, in consequence of secondary hemorrhage after amputation, and was unsuccessful. The fifth was the case of a lady operated on in 1833, by Mr. Guthrie, for a tumour on the right nates as large as an adult head, which presented so decidedly the characters of aneurism that it was believed to be so by Mr. G., as well as by Sir Astley Cooper and others, who examined it. Pulsation was manifest in every part of it, and "on putting the ear to it, the whizzing sound attendant on the flowing of blood into an aneurism could be very decidedly heard." Diminution of the tumour to the extent of one-half followed, and recovery from the operation was complete. Five months after it the tumour again enlarged, and she gradually sunk. On post-mortem examination, eight months after the operation, the arteries were found to be perfectly healthy and the tumour to consist of cerebriiform matter. The sixth was by Mr. Salomon, of St. Petersburg, in 1837. The cure was deemed perfect, the tumour almost disappeared, and the free use of the limb was restored. Ten months after, the patient is stated to have taken cold, and had an abscess to form upon the affected side, which was opened just below Poupart's ligament. He died shortly after, worn out by the suppuration. The seventh case was that of Mr. Syme, in 1838, for aneurism, and was unsuccessful, the patient dying on the fourth day. The eighth was by De-guise of Paris, in 1840, and proved successful, despite three serious accidents which happened during its performance, viz., the wounding of the sac, the giving way of the vessel under a first ligature, and the wounding of the femoral vein in the taking up of the artery of that name which was done at the same time to prevent secondary hemorrhage. The ninth was in a case of aneurism, aged twenty, which occurred to Dr. Post, of New York, in 1840. The symptoms here were deceptive, and it being judged that deep fluctuation was present, an explorative incision was made into it. On the following night there was a sudden gush of arterial blood, which was arrested by compression, and the day after, a ligature was applied to the common iliac by cutting through the peritoneum, the tumour extending so high up that it was thought impracticable to expose the vessel without it. The patient sunk twenty-four hours after the operation, from exhaus-

tion and loss of blood. The tenth case was that of a female child, aged two months, in whom the artery was secured by the late Dr. Bushe, on account of a large aneurism by anastomosis of the left labium. The child lived five weeks. In the eleventh case the ligature was applied by Dr. Perogoff on account of hemorrhage after the removal of a ligature from the external iliac, which had been applied for the cure of aneurism. In exposing the vessel, the peritoneum, which was adherent, was torn through. The wound became gangrenous, and on the eleventh day, fecal matter was discharged through it. On the fourteenth day hemorrhage occurred, and the patient died twenty-four hours after it. The twelfth case was that of my colleague at the Pennsylvania Hospital, Dr. Peace. The operation was done in August, 1842. The tumour which extended from three inches below, to the same distance above Poupart's ligament, had become, five months after the operation, reduced to the size of a filbert, and was perfectly hard. On the 13th of November, 1843, he presented himself for re-admission at the hospital, and stated that after being last seen he had returned to his employment—that of loading boats with stone—and had continued perfectly well and able to work up to within two weeks, when his attention was directed to a reappearance of his tumour. Upon examination it was found to be of the size of a small orange, was soft, entirely free from pulsation, presenting evident marks of fluctuation, and the skin covering it discoloured. A few days afterwards an opening took place in it and was followed by considerable hemorrhage, which was arrested by compression. Several recurrences of this followed, and he died on the 24th.* The thirteenth case was an aneurism operated on by Mr. R. Hey in 1843, and was successful. The fourteenth is the interesting case of supposed aneurism which has been lately published by Mr. Stanley. On applying the ear over the abdominal parietes a bellows sound in the tumour was plainly recognized. Compression applied to the femoral artery below the tumour produced enlargement of it, but when made upon the aorta all pulsation was arrested; after the application of the ligature to the common iliac, pulsation ceased. Death occurred on the third day from peritonitis. Upon dissection the arteries were found to have no connection with the tumour, which was composed of medullary matter. Tumours of a similar character were found in the heart and lungs, and one of the size of an orange occupied the middle and inner side of the arm, which during life was observed to be free from pulsation or pain, and was said to have existed for several years. The fifteenth and sixteenth cases are those which have been published by Dr. Garviso of Monte Video. The first which occurred in 1837, was an aneurism of the external iliac which extended from the pubis to the umbilicus, and was of the size of an adult's head. An

* A particular account of this case, after his re-admission into the hospital, accompanied by the post-mortem appearances, will be given by Dr. Peace in a forthcoming number of this Journal.

eschar which had formed on the tumour had commenced to separate and gave rise to abundant hemorrhage immediately previous to the performance of the operation. From the size and situation of the tumour the cavity of the peritoneum was necessarily opened. Death followed in four hours. The second of his cases—also an aneurism—was in 1843. The incision was made with a view of securing the external iliac, but the disease was found to extend so high up that the common trunk was tied. The ligature separated on the thirty-sixth day, and the patient recovered. Total, sixteen cases, of which eight may be said to have been successful, and eight died.

ART. II.—*On the Nature of Phlegmasia Dolens*. By JAMES D. TRASK, A. M., M. D., of Brooklyn, New York. (Read before the Brooklyn Medical Association, Oct. 8th, 1846.)

GREAT diversity of opinion exists in relation to the pathology of phlegmasia dolens. Various theories have been suggested in its explanation; some of these, received for a time, have been eventually supplanted by more popular successors, while others still have adherents among the leading members of the profession.

About the middle of the last century, Puzos and Levret, both eminent accoucheurs, taught, that the tumefaction of phlegmasia dolens is caused by a deposit of *milk* in the cellular tissue of the affected extremity. In 1784, Mr. White, of Manchester, published a monograph in which he maintained, that the proximate cause is “an obstruction, detention, and accumulation of lymph in the limb.” A few years afterwards, Mr. Trye, of Gloucester, suggested that this “obstruction” was due to inflammation of the lymphatic glands and vessels. In 1800, Dr. Hull, of Manchester, advanced an hypothesis, more comprehensive than the preceding, inasmuch as it attributed the affection to a general inflammation of the cellular and muscular tissues, extending perhaps, as he thought, in some cases, to the vessels and nerves.

It is important to remark that neither of these doctrines was based upon the result of a single post-mortem examination; and we have no account of any such having been made until the year 1823. At this period, Dr. D. Davis first communicated to the Medico-Chirurgical Society, a description of his dissections, and announced the discovery that the chief lesion discoverable in phlegmasia dolens, is inflammation of the venous trunks of the affected extremity; and that, consequently, phlegmasia dolens and ordinary phlebitis are pathologically identical. This doctrine, though now supported by the results of many dissections of fatal cases, and probably

more generally entertained than any other, is nevertheless by no means universally adopted.

At a meeting of the Royal Academy of Medicine, at Paris,* M. Capuron read a report upon a memoir, which attempted to prove that the disease in question depends upon inflammation of the crural and other veins of the limb. M. Breschet stated his experience to be that the lymphatics are usually as much implicated as the veins. M. Capuron did not deny that the lymphatics are inflamed, but that they are so primarily and necessarily. Velpeau's opinion was, that the disease is primarily seated in the lymphatics of the thigh; but still, he would say, that in all his dissections, both sets of vessels have been found more or less diseased. The constitutional symptoms he considered generally different from those of proper phlebitis. M. Cloquet stated, as the result of his observation, that the cellular tissue is the primary seat of the œdematous swelling, and that the veins and lymphatics are involved consecutively. M. Moreau, the eminent obstetrician, agreed with M. Cloquet. M. Andral had always seen it in men as well as in women, associated with some lesion of the pelvic viscera; and says, "I do not assert that phlegmasia dolens always depends on obliterative phlebitis alone;" "there may be lesions of the lymphatics as well as veins."

The design of the following paper is, 1st, to determine the *essential* characteristics of the affection, as described by the best authors; 2d, to present a series of cases reported by various individuals, in a part of which the post-mortem appearances are stated, and 3d, to establish, so far as it can be done from these, the pathology of this affection.

To determine its *essential* characteristics, how many and which of the attributed symptoms must be present in order to constitute a genuine case, is, in this inquiry, of the first importance; for it has been objected to the reported cases of some modern contributors, that they are not cases of phlegmasia dolens, but of ordinary phlebitis; and from this cause it is said that examples of the former have of late years greatly multiplied. It is necessary, therefore, to consult the descriptions and analyze the cases of what Dr. James Johnson calls "old-fashioned, orthodox phlegmasia dolens," in order to learn what were formerly considered its peculiar features.

The progress of the disease, as described by the earlier writers, is usually as follows. About twelve or fifteen days, more or less, after delivery, the patient is seized with acute *pain* in the groin of one side, which, says Mr. White, passes down the *inner surface* of the thigh to the leg and foot. "The pain," says Puzos, "ordinarily follows *the course of the large vessels* in descending the thigh, and is even more acute in their direction—we perceive the extent of the disease, by infiltration of the cellular texture accompanying these vessels." The disease "announces itself," says

* See Dub. Med. Journ., vol. xxiv. p. 325.

Levret, "by an extremely painful tension in the thigh along the femoral vessels, but commonly unaccompanied by heat, redness, or apparent swelling; the next day, or the day after the next, the leg is found to be attacked with the same tension." The cord of femoral vessels is also painful in a great part of its course, and often even small olive-shaped tumours are found here and there surrounding it." According to Hull, "the pain is generally most severe in the inside and back of the thigh, in the direction of the internal cutaneous and crural and posterior tibial nerves."

Instead of beginning constantly in the groin, Hull and White both state that it may commence in the calf of the leg and pass upwards to the groin and downwards to the foot; and this we shall see is of not unfrequent occurrence. The pain is very severe, and in some cases most excruciating.

Within twenty-four hours from the accession of the pain, a *swelling* comes on suddenly, and for the most part increases with great rapidity. It begins in the groin when the pain commences there,* (according to White it does so in all cases,) and extends within a few days to the foot, thus involving the limb in a smooth uniform enlargement.

The *colour* of the swelling, according to Levret, who considered it a deposit of milk, is "of a milky whiteness." Hull says "it is of its *natural colour*, or even whiter." White says it is "smooth, shining, and pale." Mr. Trye found "the skin presented no remarkable appearance." All agree that it is free from the redness of inflammation.

Another characteristic of this swelling is its *hardness*. During the first stage it pits but slightly, if at all, upon pressure. "The impression of the finger," says Levret, "does not remain at first, nor till the tumefaction has continued a long time,"—"when the swelling has arrived at its greatest height, which usually happens in the space of eight or ten days, the skin of the extremity becomes œdematous." Dr. Hull and Mr. White both assert that at first, little if any impression of the finger remains, but that after the inflammatory symptoms subside, the limb becomes œdematous.

The *temperature* of the limb is, for the most part, elevated. Hull says the swelling is "hotter than natural." White describes it as "hot," "not cold as in anasarca."

The limb is exquisitely tender; the exalted sensibility being, for the most part, confined to the inner surface of the limb, especially to the immediate tract of the vessels; but in some cases, involving the whole extremity, and seemingly constituting a neuralgic affection of its whole cutaneous surface. Efforts to move the limb or the hips are generally productive of great pain, and, in some instances, all power of motion is lost.

An attack of phlegmasia dolens is usually preceded, for some days, by

* Dr. Meigs, in his translation of Colombat, says, "In the many cases I have met with, the swelling is, in a great majority, first in the calf of the leg, which becomes painful, hard, and swollen, before the woman suspects she has pain in the groin, or in the thigh."



TABLE I.—*Fatal Cases*

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.	Pain.	Tenderness.
Case 1. Mrs. I., æt. 31, doing well until the Dr. Lee, Med. Chir. Trans., vol. xv., p. 133.	4th day after delivery.	Left lower extremity.	On 4th pain in left groin and calf, with numbness of whole lower limb.	On 4th slight swelling in site of inguinal glands; on 6th swelling of inner surface of the limb.	On 9th day embraced leg and foot.	"Much swollen."	On 6th a glistening white; on 9th "no discoloration;" on 15th a uniform smooth shining appearance of a cream colour.	On 9th very tense, and did not pit on pressure; on 15th whole extremity pitted.	To touch, same as in the other; on 15th a sensation of heat through it.	Much pain, especially in upper and inner part of thigh, on moving; relieved by flexed position.	Exquisite in course of the vein.
Case 2. Mrs. Edwards, æt. 35, had an attack in same limb 12 years before.—Dr. Lee, Med. Chir. Trans., vol. xv., p. 370.	End of 2 weeks after delivery.	Right lower extremity.	On 14th day sudden pain of right calf, and loss of power in whole lower limb.	On 18th there was considerable swelling, from the ham to the foot.	By 21st day.	"Universally swollen."	Without discoloration, "pale and glistening."	On 21st does not pit on pressure; on 30th "no pitting on pressure."	Along inner surface increased.	"Painful."	Great along vessels in ham and inner side of leg.
Case 3. Mrs. Foster, æt. 25, had tubercular phthisis; for two weeks had pain in bowels and diarrhoea.—Dr. Lee, Med. Chir. Trans., vol. xv., p. 379.	End of 6 weeks after delivery.	Left lower extremity.	Seized with great uneasiness in region of uterus, which passed into groin, and within 2 days extended down inner side of thigh and leg.	Within 24 hours after invasion of the pain.	By 4th day of attack.	On 4th day double natural size.	4th day colourless.	4th day nowhere pitting, except over foot; on 10th foot and ankle pit; on 46th day universally oedematous.	Hot.	Attempts to move cause excruciating pain on inner surface of the limb.	Excessively acute in tract of vessels, but little on outside of the limb.
Case 4. Æt. 24, had a favourable recovery for 3 weeks, when she took cold.—New York City Hospital. See Am. Journ. Med. Sc., vol. xvi., p. 48.	End of 3 weeks after delivery.	Right and then left.	End of 3 weeks had pain in right hip-joint, extending from internal ring along groin to loins; treated for rheumatism.	End of 6 weeks swelling began near Poupart's ligament, extending to toes, and involving right labium; pain excessively augmented when swelling came on.	From the first.		"Smooth, shining pearly whiteness from toes to groin."	At first tense and inelastic; at end of 9th week from delivery pitted slightly on pressure.		Painful to the touch when moved.	End of ninth week, tenderness of uterine region on pressure.
Case 5. Æt. 28, delivered of twins; on 4th day pain in breasts and left chest, rigors, fever, diarrhoea and vomiting.—Hotel Dieu, see Med. Chir. Rev., vol. xiv.	4th day after delivery.	Both lower limbs and left arm.					"Shining white."	"Tense and elastic," and did not pit on pressure; right mamma shining and swollen.			
Case 6. C. Dunn, æt. 21, weak constitution, severe labour; placenta artificially removed, soreness remained in vagina; labia inflamed and swollen after delivery. Dr. Davis, Med. Chir. Trans., vol. xii.	6th day slight fever, cream-like discharge from vagina.	Left lower.	On 15th cramps in left leg.	On 19th day left leg and thigh much swollen.		"Much swollen."	"No signs externally of inflammation."	On 19th no "pitting on pressure;" 21st "leg pitted on pressure."			
Case 7. A young man, plethoric, took cold from working in a ditch filled with water.—Dr. Stokes and Graves, in Dublin Hospit. Reports, vol. v., p. 39.	2d day from exposure.	Right lower limb.	On 2d day pain in right thigh, and on the 8th it was severe in upper and anterior portions.	Commenced on 10th day in upper part of thigh.	It increased till his death.		"Not at all red."	Swelling elastic.		Severe in the limb and in left hypochondrium, greatly aggravated by motion.	Upper and anterior part "extremely tender."
Case 8. Mrs. Mason, æt. 42, severe uterine hemorrhage, tenderness of uterus remained four weeks.—Dr. Lee, Med. Chir. Trans., vol. xv., p. 383.	4 weeks after delivery.	Both lower limbs.	Pain in right iliac region, and from which next day extended down inside of thigh to ham.	On evening of 2d day whole thigh and leg "considerably swollen."	3d day.	"Considerable."	"Natural colour."	3d day does not pit on pressure; on 12th day pits on pressure.	Much elevated, particularly on inner surface.	Pain, especially on inner surface, which ceased about 18th day; on 3d day loss of all motion of the limb.	Very little out of course of the vessels.
Case 9. A male, last stages of phthisis pulmonalis.—Lond. Med. Reposit., June, 1825.		Right lower limb.	Whole right thigh and leg extremely painful.	Uniformly enlarged up to Poupart's ligament.			"A dull white appearance."	"No indentation on pressure."		"Extremely painful."	

TABLE I.—*Fatal Cases*

CASES.	Degree of hardness.	Temperature.	Pain.	Tenderness.
<i>Case 1.</i> Mrs. I., æt. 35, well until the Dr. Lee, Med. Chir. vol. xv., p. 133.	On 9th very tense, and did not pit on pressure; on 15th whole extremity pitted.	To touch, same as in the other; on 15th a sensation of heat through it.	Much pain, especially in upper and inner part of thigh, on moving; relieved by flexed position.	Exquisite in course of the vein.
<i>Case 2.</i> Mrs. Edv 35, had an attack in 12 years before.—Dr. Chir. Trans., vol. xv.	On 21st does not pit in pressure; on 35th no pitting on pressure.	Along inner surface increased.	"Painful."	Great along vessels in ham and inner side of leg.
<i>Case 3.</i> Mrs. Foster had tubercular phthisis; weeks had pain in both feet and ankle diarrhœa.—Dr. Lee, Trans., vol. xv., p. 37	4th day nowhere pitted, except over foot; on 10th foot and ankle pitted slightly on pressure; on 46th day universally œdematous.	Hot.	Attempts to move cause excruciating pain on inner surface of the limb.	Excessively acute in tract of vessels, but little on outside of the limb.
<i>Case 4.</i> Æt. 24, unfavourable recovery for when she took colic York City Hospital. Journ. Med. Sc., vol. xiv.	At first tense and inelastic; at end of 9th week from delivery pitted slightly on pressure.		Painful to the touch when moved.	End of ninth week, tenderness of uterine region on pressure.
<i>Case 5.</i> Æt. 28, de twins; on 4th day pain and left chest, rigors, diarrhœa and vomiting. Dieu, see Med. Chir. xiv.	"Tense and elastic," and did not pit on pressure; right mamma shining and swollen.			
<i>Case 6.</i> C. Dunn weak constitution, labour; placenta artificially removed, soreness of vagina. Dr. Davis, Trans., vol. xii.	On 19th no "pitting in pressure;" 21st leg pitted on pressure.			
<i>Case 7.</i> A young nœric, took cold from a ditch filled with water. Stokes and Graves, Hospit. Reports, vol. xiv.	Swelling elastic.		Severe in the limb and in left hypochondrium, greatly aggravated by motion.	Upper and anterior part "extremely tender."
<i>Case 8.</i> Mrs. Mast severe uterine hemorrhages of uterus removed. — Dr. Lee, Trans., vol. xv., p. 38	3d day does not pit in pressure; on 12th day pits on pressure.	Much elevated, particularly on inner surface.	Pain, especially on inner surface, which ceased about 18th day; on 3d day loss of all motion of the limb.	Very little out of course of the vessels.
<i>Case 9.</i> A male, 1 of phthisis pulmonalis. Med. Reposit., June,	"No indentation on pressure."		"Extremely painful."	

of Phlegmasia Dolens.

State of veins, glands, &c.	Constitutional symptoms at first: before or after local?	Constitutional symptoms in later stages.	State of lymphatics.
Femoral vein on 15th could be traced three or four inches, as a thick hard cord, of the size of the little finger, exquisitely sensitive as it rolled under the finger.	Local symptoms followed by rigors.	"Fever."	Inguinal glands adherent to veins, but healthy.
Pressure along crural vessels causes great pain; vein from groin to middle of thigh indurated, enlarged, and acutely sensitive, as on inside of leg to ankle.	"No rigor or pyrexia at invasion of the disease."	On 25th day all trace of disease in the limb is gone.	Textures perfectly healthy.
On 4th femoral could not be ascertained; the saphena hard and painful; on 7th day femoral vein felt indurated, enlarged and exquisitely painful.	On fourth day pulse 120; respiration quick and laborious, tongue red and glossy, diarrhœa.	Diarrhœa, pulmonary affection worse—death; local symptoms continuing.	
9th week, superficial veins of abdomen unusually distinct.	Inflammatory.	Great debility.	"Absorbents and glands unaffected." Arteries of lower extremity rather more contracted than usual.
	Rigors, fever, delirium, &c. 3d day pale features, tongue dry, abdomen tender, oppression, &c.; knee-joints red.	Profound typhus and diarrhœa.	
	Slight fever following delivery.	Great depression.	Glands a little enlarged, but free from the slightest signs of inflammation.
	Seized with lassitude, vertigo, general weakness and pain in the limbs.	Had bronchial and pneumonic inflammation, and died in typhoid state.	
On 5th day inguinal glands painful and swollen; on 3d the femoral vein for several inches was distinctly enlarged and very painful when pressed.	Rigors, followed by fever and pain in iliac region, in groin.	Rigors, diarrhœa, great prostration, delirium, pulse 140.	Right common external and internal iliac imbedded in a mass of suppurating glands.



of Phlegmasia Dolens.

State of veins, glands, &c.	Constitutional symptoms at first: before or after local?	Constitutional symptoms in later stages.	Duration.	General remarks.	State of cellular tissue.	Veins of limbs.	Veins of uterus.	State of lymphatics.
Femoral vein on 15th could be traced three or four inches, as a thick hard cord, of the size of the little finger, exquisitely sensitive as it rolled under the finger.	Local symptoms followed by rigors.	"Fever."	On 20th day acute pain on pressure gone; extremity universally œdematous.	For two months more disabled from walking, and limb permanently enlarged. 21 months after, died from uterine hemorrhage.	Whole inferior extremity enlarged; no serum escaped; knife passed through dense granular adipose matter.	Common iliac and upper femoral were a mere ligamentous cord; entrance of internal iliac impervious.		Inguinal glands adherent to veins, but healthy.
Pressure along crural vessels causes great pain; vein from groin to middle of thigh indurated, enlarged, and acutely sensitive, as on inside of leg to ankle.	"No rigor or pyrexia at invasion of the disease."	On 25th day all trace of disease in the limb is gone.	On 56th day all trace of disease in the limb is gone.	On 36th has had uneasiness over pubis and loins, with rigors and pyrexia; during 46 days following had acute pains in abdomen, remittent febrile attacks, anxiety, rapid feeble pulse, delirium, disorganization of eyes, puffy swelling of joints—death.	Pus in pleura and parenchyma of lungs; cellular tissue healthy; limbs of same size.	Coats of vena cava thickened, and of a bright red, and with coagula of pus and lymph; left common iliac closed by adherent coagula, right common iliac less than half its natural size, filled by adherent lymph, firm.	The internal iliac at its entrance was an impervious cord. The femoral veins, to middle of thigh, contracted, adherent, and filled with coagula; the saphenae the same.	Textures perfectly healthy.
On 4th femoral could not be ascertained; the saphena hard and painful; on 7th day femoral vein felt indurated, enlarged and exquisitely painful.	On fourth day pulse 120; respiration quick and laborious, tongue red and glossy, diarrhoea.	Diarrhoea, pulmonary affection worse—death; local symptoms continuing.	51 days.			Left corner external and internal iliac were pervious, being contracted and filled with adventitious membranes.	Left hypogastric impervious; left uterine polypus filled with firm reddish lymph, and dark blue adventitious membrane.	
9th week, superficial veins of abdomen unusually distinct.	Inflammatory.	Great debility.	About 63 days.	Tenth week, left leg swollen, and a gangrenous slough formed over right hip, leading to an immense pelvic abscess.	The abscess communicated with the hip, and passed down behind the femoral vessels to the middle of the thigh.	The external iliac and femoral vein of right side thickened, and nearly filled with coagula, and the inguinal, immediately behind Poupart's ligament, completely obstructed, for 4 inches, with a yellow substance apparently organized.	Uterine veins apparently healthy; internal iliac slightly thickened; left external and internal iliac somewhat thickened, and left femoral vein obstructed for half an inch by the same substance as in right.	"Absorbents and glands unaffected." Arteries of lower extremity rather more contracted than usual.
	Rigors, fever, delirium, &c. 3d day pale features, tongue dry, abdomen tender, oppression, &c.; knee-joints red.	Profound typhus and diarrhoea.	35 days.	"On the eleventh day left arm showed same kind of œdematous swellings as lower limbs."	A vast deposit of suppuration about the shoulder-joint; pulmonary arteries had same appearance as veins.	Principal vein of arm filled with white tubular concretions, non-adherent, containing pus, internal coats pale, internal iliac contained polypus concretions.	Uterus size of fist, filled with sanguineo-purulent matter, parietes livid, fundus softened, hypogastric and femoral veins lined, with tubular concretions, filled with pus to the ankle.	
	Slight fever following delivery.	Great depression.	25th day from delivery.	There was uniform œdematous enlargement, as in anasarca, without discoloration from hip to toe, from effusion into cellular tissue.	Infiltrated generally.	Femoral vein from ham upwards, and the external and common iliac distended and firmly plugged with coagula, laminated and adherent in one point, containing 51 of thick purulent matter.	The uterus was in a perfectly natural state.	Glands a little enlarged, but free from the slightest signs of inflammation.
	Seized with lassitude, vertigo, general weakness and pain in the limbs.	Had bronchial and pneumonic inflammation, and died in typhoid state.	Died on 12th day of attack.		Cellular tissue pale and œdematous; upper part of right thigh swollen and tense; leg and foot slightly œdematous.	In external iliac a concretion, of a yellow granular friable appearance, nearly plugging it and its branches; lining membranes red, and in one point adherent; no purulent matter; femoral and popliteal veins healthy.		
On 5th day inguinal glands painful and swollen; on 3d the femoral vein for several inches was distinctly enlarged and very painful when pressed.	Rigors, followed by fever and pain in iliac region, in groin.	Rigors, diarrhoea, great prostration, delirium, pulse 140.	26 days.	On eighteenth day complained of tenderness in left groin, but nothing else could be detected.	Both limbs œdematous.	Left iliac and femoral veins filled with coagula, coats a little thickened; coats of the right dense and ligamentous, filled by adventitious membrane of a dull yellow colour.	Right hypogastric vein impervious.	Right common external and internal iliac imbedded in a mass of suppurating glands.
				Phlegmasia dolens said to be perfectly characterized.		The right common and external, and internal iliac, to upper part of femoral veins, felt to the touch like a cord, and were filled with coagulable lymph, and entirely impervious.		



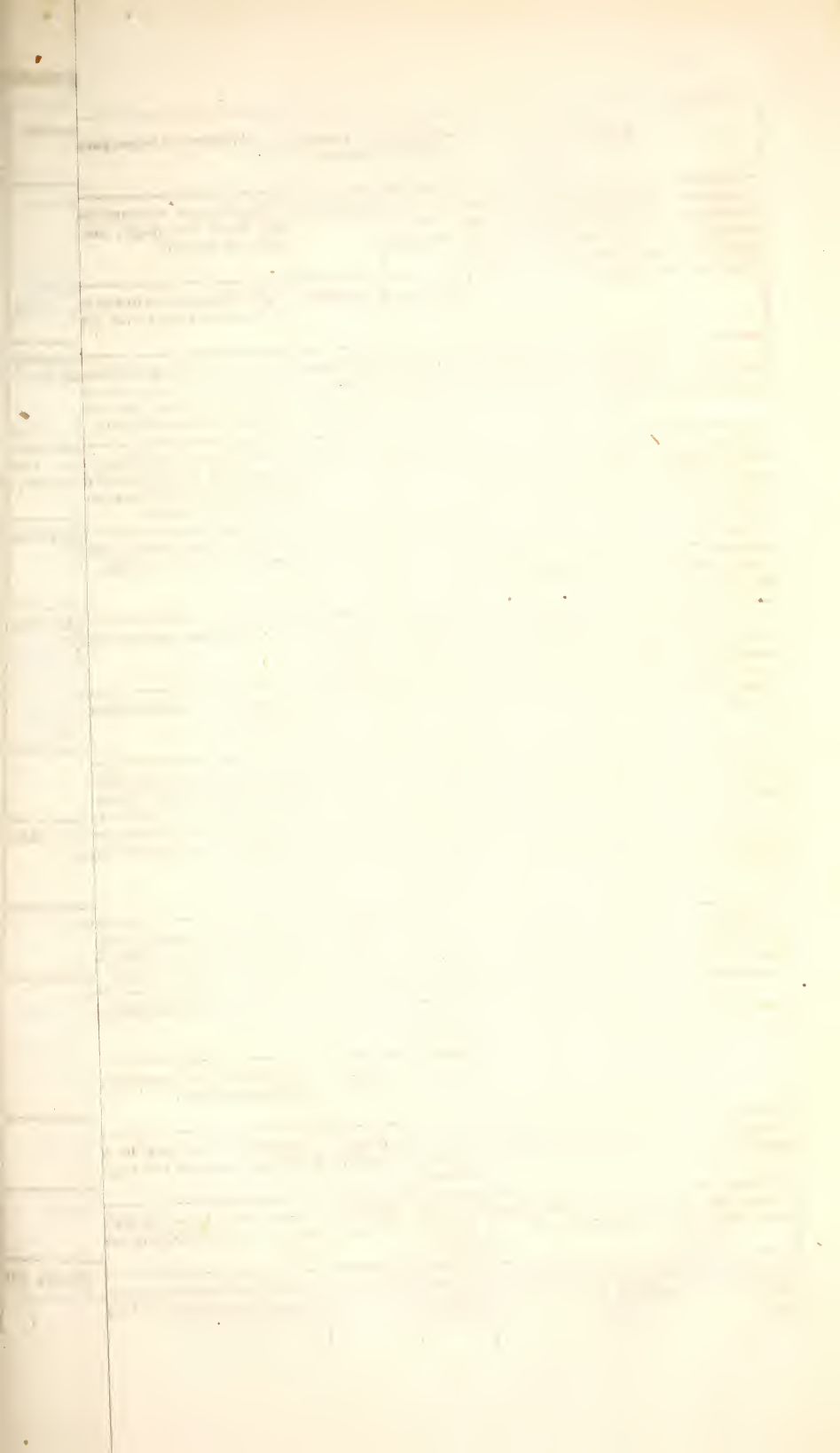


TABLE II.—Cases of *Phlegmasia*

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 10. <i>Æt.</i> 25, exhausted by endeavouring to suckle her child. "No evident cause," perhaps cold.— <i>M. P. Dubois</i> , in <i>Lond. Med. Gaz.</i> , vol. xxii., from <i>Gaz. des Hop.</i> , 1838.	8th day from delivery.	Left lower.	On 9th pain in crural arch, extending down the thigh; on 14th more acute in the calf.	On 14th calf of leg swollen.	"In 2 days occupied thigh and leg."		"No redness,"	"The fingers left no trace of pressure."	
	24th day.	Right.	On 24th, pain in lower part of abdomen towards right iliac fossa.	In upper part of the limb.			Same as in left.	Same as in left.	
Case 11. <i>Girl</i> , <i>æt.</i> 20, delicate habit, subject of bronchocele and dyspeptic.— <i>Lond. Lancet</i> , 1832, 3, (1), p. 102.	April 1st.	Left lower.	On the 1st, in region of sciatic nerve.	General within 48 hours.	In 48 hours.	Extended high as umbilicus, and labia swollen so as to impede micturition on 12th.	"White."	Tense and elastic at first; on 27th "assumed the characters of common oedema."	"Heat greatly increased."
	April 8th	Right lower.	Began by pain and tenderness in course of femoral vessels.						
Case 12. A farmer, <i>æt.</i> 58, spare habit, exposed to changes of weather, cause unknown.— <i>Lond. Med. Gaz.</i> , vol. xi.	May 24th	Left lower.	Pain began in left groin, shooting down thigh in course of femoral vessels, as far as the ham, with sense of coldness in the foot.	On the 1st day "not the least swelling or induration perceived;" on 2d day the thigh and leg enormously swollen.	By 2d day.	"Enormously swollen."	"Of a natural colour."	"Tense and perfectly elastic."	Of whole limb, somewhat less than of the body.
Case 13. A girl, <i>æt.</i> 21, convalescent from gastric fever; no obvious cause.— <i>Drs. Stokes and Graves</i> , <i>Dub. Hosp. Rep.</i> , vol. v.	June 7th.	Left lower.	Violent pain in calf, extending afterwards to middle of thigh.	Swelling noticed in the calf at the first.			"Not at all red."	"At first did not pit on pressure;" in a few days pitted.	"Hotter than natural."
Case 14. <i>Æt.</i> 27, oedema and varices during pregnancy, tedious labour, pain in hypogastric, right iliac and inguinal region during succeeding week.— <i>Dr. Lee</i> , <i>Med. Chir. Trans.</i> , vol. xv., p. 138.	13th day from delivery.	Whole right lower.	On 13th limb became stiff.	And swollen, increasing until 17th day.		Extended to both labia pudendi.	On 17th day "pale and shining."	On 14th day no pitting on pressure, except slightly on firm pressure over tibia in front; on 17th pits every where on strong pressure.	"Higher than natural."
	18th day.	Left lower.	Pain and numbness in pelvic region and calf.	Calf slightly tumid at first.					
Case 15. <i>Æt.</i> 16, in high health, very difficult labour.— <i>Dr. Hustin</i> , <i>N. Am. Med. and Surg. Journ.</i> , vol. v., p. 280.	9th day from delivery.	Right lower.	9th, pain began in right side of abdomen, over iliac region, and descended thigh and leg in a few hours.	10th, great enlargement of leg, thigh and foot.	From the first.	"Great."	Extremely smooth and glossy, of the colour of milk.	On 23d from delivery began to pit.	
Case 16. Anasarca before, and puerperal fever subsequent to delivery.— <i>Dr. Hull's Treatise</i> , p. 154.	3 months after delivery.	Left lower.	At first in fore part of leg, extending to calf.	In 4 hours from foot to hip, groin and abdomen.	In 4 hours.	On 2d day very much swollen.	"Shining;" "not discoloured."	At first "scarcely retained any impression of the finger;" on 11th day pitted in some places.	Hotter than natural.
Case 17. <i>Æt.</i> 25, varices and oedema of right leg during pregnancy.— <i>Dr. Hull</i> , p. 178.	12th day from delivery.	Right lower.	On 11th day, rigors and fever, and pain in the hip; on 12th, pain extended to groin, thigh and leg.	Within 24 hours general.	24 hours.		"Lucid."	"Tense."	"Hot."
Case 18. Oedema during pregnancy, difficult labour.— <i>Dr. Hull</i> .	26th day from delivery.	Left lower.	Pain in whole extremity at the first.	General swelling soon followed.		Much swollen.	"Free from discoloration."	Scarcely retained impression of the finger in the thigh; less elastic in leg.	
	On 50th day.	Right lower.	Began in calf, ascending to groin and hypogastrium.				At first "not discoloured;" in five days dusky from cutaneous veins.	"More or less elastic at first, then leg and foot pitted."	
Case 19. Oedema during pregnancy; recovering well.— <i>Dr. Hull</i> , p. 193.	6th day from delivery.	Right lower.	On 6th, violent pain in the calf, extending, on 7th, to the thigh.	On 6th no evident swelling, but within 12 hours the "leg was very much swollen."	On 7th.	"Considerably swollen."	"Not discoloured."	"Tense."	
Case 20. On decline of puerperal fever.— <i>Mr. Trye's Treatise</i> , p. 66.	13th day from delivery.	Right lower.	Seized with excruciating pain in groin darting to the middle of inside of the thigh.			"Almost to bursting."	White and glossy.	At first did not yield in the least to pressure, except toward the ankle.	
Case 21. Very laborious labour.— <i>Dr. Ferriar</i> in his <i>Med. Histories</i> , vol. iii.	30 hours after delivery.	Left lower.	Seized with violent pain in groin and hip, and then in ham and knee.	Two days after pain, swelling began in groin, labia, and upper part of thigh, descending to the leg and foot.		"The thigh was nearly as thick as her waist."	"Paler than natural."	Elastic.	"Warm, not hot."

TABLE II.—Cases of *Phlegmasia*

	of swelling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 10. deavouring to evident cause. Dubois, in <i>Lc</i> from <i>Gaz. des</i>		"No redness."	"The fingers left no trace of pressure."	
		Same as in left.	Same as in left.	
Case 11. G subject of bro and labia swollen on 12th. — <i>Lond. Lanc</i>	ed high as usual	"White."	Tense and elastic at first; on 27th "assumed the characters of common œdema."	"Heat greatly increased."
Case 12. A habit, exposed cause unknown vol. xi.	mously swollen	"Of a natural colour."	"Tense and perfectly elastic."	Of whole limb, somewhat less than of the body.
Case 13. lescent from cause.— <i>Drs. S Hosp. Rep., vo</i>		"Not at all red."	"At first did not pit on pressure;" in a few days pitted.	"Hotter than natural."
Case 14. A rices during pain in hypoga and guinal region d — <i>Dr. Lee, Mec p. 138.</i>	led to both labia.	On 17th day "pale and shining."	On 14th day no pitting on pressure, except slightly on firm pressure over tibia in front; on 17th pits every where on strong pressure.	"Higher than natural."
Case 15. At. difficult labour. — <i>Med. and Surg.</i>	it."	Extremely smooth and glossy, of the colour of milk.	On 23d from delivery began to pit.	
Case 16. An erperal fever su Dr. Hull's Treas	day very much	"Shining;" "not discoloured."	At first "scarce retained any impression of the finger;" on 11th day pitted in some places.	Hotter than natural.
Case 17. At ma of right leg d Hull, p. 178.		"Lucid."	"Tense."	"Hot."
Case 18. Ed difficult labour. —	swelled.	"Free from discoloration."	Scarcely retained impression of the finger in the thigh; less elastic in leg.	
		At first "not discoloured;" in five days dusky from cutaneous veins.	"More or less elastic at first, then leg and foot pitted."	
Case 19. Ed recovering well.	iderably swollen	"Not discoloured."	"Tense."	
Case 20. On fever.— <i>Mr. Trye</i>	lost to burst-	White and glossy.	At first did not yield in the least to pressure, except toward the ankle.	
Case 21. Ver Dr. Ferrier in his iii.	thigh was as thick as her	"Paler than natural."	Elastic.	"Warm, not hot."

Dolens not proving Fatal.

Pain.	Tenderness.	State of.
Acute on 14th in the calf, and	On 14th tenderness on pressure in left iliac fossa, and along course of vessels of the lower extremity.	Tenderness, but an in the calf, vessels on 14th. part.
26th, acute pain in bend of the groin, and along the vessels.	"Slightest pressure made her cry out."	Acute pain and vessels.
Excruciating, with almost complete inability of motion.	On 3d tenderness over femoral vessels exquisite.	Superficial veins limb marbled.
"Violent and deep seated."	On 1st day "some tenderness along upper and inner part of thigh."	Pain shooting in day.
Violent in calf.	"Everywhere great."	Tenderness "excessively when right leg extent" on 1st day. Leech bites
"Exquisite pain," extending in course of great vessels through thigh, ham, and back of leg."	Pain aggravated by pressure.	Severe pain in c felt in groin, hard, r
Exquisite pain in course of femoral vessels, afterwards passing into ham and back of leg.		
	Sensibility so great could not bear the touch of a fly.	e left extremity
Extreme all over.	Tender.	Enlarged cutaneous to the limbs.
"Painful."	"Tender."	right leg con- never œdema-
Very painful; not more so on inside than outside of the limb.	Tender.	No appearance of ¹ .
Painful.	Very tender, "especially on the inside."	"Cutaneous veins
Violent.	"Very tender to the touch."	"No inflammation charged bloody ination.
Excruciating.		On inside of thigh ble, supposed to be
Great pain, particularly on being moved.		a large pelvic



Dolens not proving Fatal.

Pain.	Tenderness.	State of veins, glands, &c.	Constitutional symptoms at the first; before or after local?	Constitutional symptoms in later stages.	Duration.	General remarks.
Acute on 14th in the calf, and	On 14th tenderness on pressure in left iliac fossa, and along course of vessels of the lower extremity.	Tenderness, but no induration in course of the vessels on 14th.	"Fever not violent," reaction slight.	"Reaction diminished."	Swelling, pain, &c., began to decline on 21st day of the disease.	In the left limb disease began in the calf, in the right limb, in the upper part.
26th, acute pain in bend of the groin, and along the vessels.	"Slightest pressure made her cry out."	Acute pain and tenderness along course of the vessels.				
Excruciating, with almost complete inability of motion.	On 3d tenderness over femoral vessels exquisite.	Superficial veins on 8th remarkably developed; limb marbled.	Adynamic fever on the 3d day.	Great prostration from an early stage.	After 45 days there was little of the disease remaining, but considerable debility of the limbs.	
"Violent and deep seated."	On 1st day "some tenderness along upper and inner part of thigh."	Pain shooting in course of femoral vessels on 1st day.	Rigors and fever, succeeding the pain on 1st day.	On 2d day fever became typhoid and continued for 10 days with slight delirium at night.	By 13th day pain gone; by 16th day limb nearly restored to natural size; on 27th resumed work.	
Violent in calf.	"Everywhere great."	Tenderness "excessive along course of saphena vein, which felt cordy and knotted throughout its extent" on 1st day.	Considerable fever.	Required tonics and stimulants on 8th day.	In about 5 weeks all local symptoms gone.	For 3 weeks there were intermissions and exacerbations of symptoms, when right leg was seized in a similar way. Leech bites discharged serum.
"Exquisite pain," extending in course of great vessels through sure. thigh, ham, and back of leg."	Pain aggravated by pressure.	Severe pain in course of, on 14th; femoral vein felt in groin, hard, rolling, and incompressible.	"Symptoms of pyrexia came on, and whole right extremity became swollen and stiff."	Great irritability and prostration.	On 66th day still great weakness in both extremities; no pain; slight swelling of left leg and ankle.	
Exquisite pain in course of femoral vessels, afterwards passing into ham and back of leg.						
	Sensibility so great could not bear the touch of a fly.			Uterine discharges offensive; pulse frequent, hard and vibrating.	In 2 months able to walk, but several months before a complete cure.	On 22d day from delivery the left extremity similarly attacked.
Extreme all over.	Tender.	Enlarged cutaneous veins, giving a dusky red colour to the limbs.	Rigors in morning, swelling appeared subsequently.	Required tonics.	At end of 3d month there were considerable swelling of the limb and contraction of the knee.	
"Painful."	"Tender."		Rigor and fever on 11th; pain in groin, &c., on 12th.			Nearly two years after, the right leg considerably larger than the left, never oedematous; some varices.
Very painful; not more so on inside than outside of the limb.	Tender.	No appearance of inflamed glands.	Had pyrexia the day previous to access of pain.	Required stimulants and tonics.	About 40 days.	Subsequent condition natural.
Painful.	Very tender, "especially on the inside."	"Cutaneous veins much enlarged."	Pyrexia.			
Violent.	"Very tender to the touch."	"No inflammation on enlargement of lymphatics."	On 6th had rigors and extreme debility; pulse extremely small, not to be counted.	Delirium, with continued pain in limb—death.	About 60 hours.	Leg burst after death and discharged bloody serum. No post-mortem examination.
Excruciating.		On inside of thigh a tumour felt, exquisitely sensible, supposed to be a gland.			In 11 days from attack limb restored to natural state.	
Great pain, particularly on being moved.			No rigors or pyrexia before pain seized her.		Swelling left the groin and thigh within a month; pain in loins still severe.	In 15 weeks from delivery a large pelvic abscess burst.

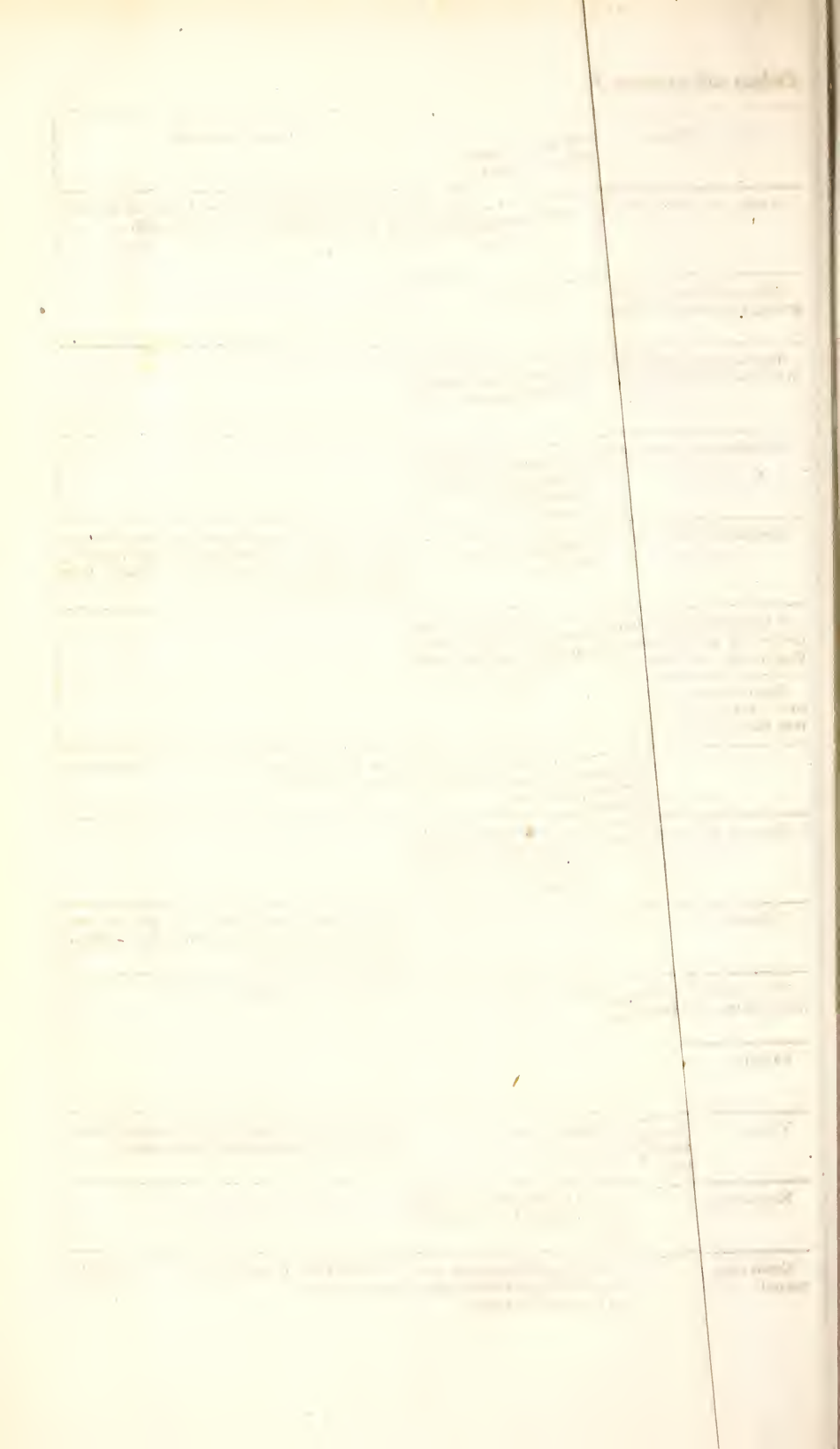




TABLE II. *Continued.* Cases of

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 22. Et. 29, delicate.—Dr. Lofland, Am. Med. Record, 1818.	14th day from delivery.	Lower extremity.	Pain in lower part of belly, soon followed by an intolerably excruciating pain and stiffness about groin, pain continuing down the course of the sartorius to its insertion.	In 24 hours the whole limb, from toes to hip, more than double its natural size, involving the labium of the affected side, and impeding micturition.	"Within 24 hours."	"More than double its natural size."	"Pale and somewhat shining;" "not red."	"Tense."	"Very hot."
Case 23. Et. 25, enfeebled system, had uterine hemorrhage at delivery, from 3d day a bowel complaint; when inflammation of the left began to subside, diarrhoea returned, so as, on the 65th day, to threaten life; while recovering from this she experienced same feelings in the right groin, &c.—Lond. Med. Gaz., vol. xv., p. 794.	21st day from delivery.	Left lower.	On 21st a pain inside groin and hip, extending, by the 23d, down the thigh.	No swelling till 24th, when some perceptible in thigh and groin.	On 25th whole leg, thigh and foot.	"Very much swollen."	"Integuments white" and "glossy."	"Not pitting" until 26th day, after which pitted on pressure.	
	96th day.	Right lower.	On 96th day the disease was fully manifested; same pain in groin, side and hip as in other.	Same course as in left on 97th day, swelling reached as high as the ribs.					
Case 24. A male, stat. 17, cause unknown, presumed idiopathic.—Lond. Med. Gaz., vol. xi.	April 10.	Right lower.	1st day in right groin.	Began at upper part; time not stated.	By 12th day had descended to hip, leg, and foot.	"Immensely swollen."	"A smooth shining appearance, without slightest discoloration."	"Tense and elastic."	"Extremely hot."
Case 25. A female, stat. 20, dyspeptic.—Gaz. Médicale, 1832, p. 753.	Aug. 1st.		First had lancinating pain in hip, in course of sciatic nerve; on 3d had, within last 24 hours, very acute pains in, and almost an impossibility of moving the limb.	August 3d, within 24 hours swelling has invaded the entire limb.	Within 3 days.	On 12th had reached the umbilicus, and labia swollen so as to impede micturition.	"White."	"Tense and elastic" at first; by 27th day became like simple œdema.	"Considerable heat."

TABLE II. *Continued.* Cases of

	of swelling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 22. Lofland, Am.	than double its size.	"Pale and somewhat shining;" "not red."	"Tense."	"Very hot."
Case 23. had uterine from 3d day a inflammation side, diarrhoea 65th day, to covering from same feelings Lond. Med. C	much swol-	"Integuments white" and "glossy."	"Not pitting" until 26th day, after which pitted on pressure.	
Case 24. unknown, pr Med. Gaz., v	ensely swol-	"A smooth shining ap- pearance, without slight- est discoloration."	"Tense and elastic."	"Extremely hot."
Case 25. peptic.—Gaz llen so as to micturition.	th had reached ilicus, and la-	"White."	"Tense and elastic" at first; by 27th day became like simple œdema.	"Consider- able heat."

Phlegmasia Dolens not proving Fatal.

Pain.	Tenderness.	State of
As swelling advanced, pain abated until it ceased.		eks from at- with same
Acute till 26th, after which it subsided.	Exquisite in course of veins.	On 23d femoral vein fine region ; corded; on 24th continued. tremity was visible, delivery she is ful if touched by a ff veins over hard and corded, ane and there evident, enlarging aregs edema- al veins felt On 97th the veins still tender. and painful;" on 9oft, and, as 100th the veins round their whole down brachials to fir legs amaz- and facials.
"Extremely painful," attempts to extend the limb extremely painful.	"Pain upon pressure very acute."	9th fluctua- nces of thin a 24 hours; knotted feel
Very acute pain in the left limb, and pain complained of in track of femoral vessels in right limb on 1st day.	Much sensibility in track of femoral vessels of both limbs.	Much sensibility i right "at the first;" of the left were rem.



Phlegmasia Dolens not proving Fatal.

Pain.	Tenderness.	State of veins, glands, &c.	Constitutional symptoms at the first, before or after local?	Constitutional symptoms in later stages.	Duration.	General remarks.
As swelling advanced, pain abated until it ceased.			On 2d day pulse frequent, small, feeble; countenance pale and sallow, bowels irregular.		In two weeks swelling gone; limb weak, with lumps of size of a walnut, supposed to be coagulable lymph.	In 3 months could walk; 2 weeks from attack of this the other leg seized with same symptoms.
Acute till 26th, after which it subsided.	Exquisite in course of veins.	On 23d femoral vein exquisitely tender and slightly corded; on 24th every superficial vein of the extremity was visible, of a deep blue, exquisitely painful if touched by a feather; after 26th femoral vein hard and corded, and superficial veins daily more evident, enlarging and becoming varicose. On 97th the veins over abdomen "enlarged, hard, and painful;" on 98th traced to epigastrium; on 100th the veins round whole chest, into both axillæ, down brachials to fingers' ends, and along jugulars and facials.	During the whole progress of the disease there were no typhoid symptoms, and constitutional symptoms not manifested until perhaps six or seven days after local.	During the bowel attack there was great prostration, and death imminent.		No pain on pressure over uterine region; milk was suppressed; lochia continued. After about 8 months from delivery she is pale and very weak; clusters of veins over the body, in a varicose state; here and there minute cords under the skin; legs œdematous towards night. Both femoral veins felt enlarged, hard, and rolling, and still tender. Internal saphena swollen and soft, and, as well as external saphena, traced their whole length. "The saphena of both legs amazingly distended."
"Extremely painful," attempts to extend the limb extremely painful.	"Pain upon pressure very acute."		Violent reaction, local symptoms "followed by rigors," &c.	On 12th day, when fluctuation existed, pulse 140, and put upon stimulants, &c.	Began to improve from 19th day; on 130th day there "is every hope that the use of the limb will to a great extent be restored."	On 11th day fluctuation; on 19th fluctuation all round the limb; 20 ounces of thin pus oozed out from a puncture in 24 hours; subsequently on examination a knotted feel was experienced in the limb.
Very acute pain in the left limb, and pain complained of in track of femoral vessels in right limb on 1st day.	Much sensibility in track of femoral vessels of both limbs.	Much sensibility in track of left on 3d day, in right "at the first;" by the 8th the superficial veins of the left were remarkably developed.	August 3, pulse feeble; 4th, skin dry and cold; anæmia; extreme feebleness.		On 9th of May treatment suspended, and there remained only considerable feebleness of the limbs.	



TABLE III.—Cases of *Phlebitis*, and certain

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.	Pain.	Tenderness.
Case 25. A male, æt. 30, after an attack of peripneumonia.—London and Edinburgh Monthly, 1842.	April 11th.	Both lower.	Seized at first with severe pain in course of right sciatic nerve, and on 9th day same in left.	Began at foot and lower part of leg.	By 10th day pain and swelling had reached scrotum and groin.			After 16th day "began to assume in lower part the character of simple œdema."		"Swelling, pain, and tension."	
Case 26. A female, æt. 22, three weeks after catamenia.—Lond Med. Gaz., vol. 22, p. 138.	March 10th.	Left lower.	Had pain during the menstrual period, 3 weeks before, and since.			"Much swelling."	Shining.	Not pitting.		Much pain in leg and thigh.	
Case 27, æt. 40. Malignant ulcer os uteri, great pain in lumbar region and dysuria.—Lond. Lancet, 1833-4 (1) 449.	June 27th.	Left lower.	Began in left groin, producing fainting, and extending into the calf of the leg.		On 3d day much enlargement of the whole extremity.	Much enlargement.	On 2d "slightly erythematous." On 6th "pale and shining."	Elevated hardness along saphena vein. On 7th pitted on pressure.			Great in the track of the vein.
Case 28, æt. 40. Carcinoma of cerv. uteri. Seized with increased pains in the hypogastrium.—Med.-Chir. Trans., vol. xvi.		Right lower.	Commenced in course of femoral and iliac vessels.	General.			"Colour unaltered."	"Thigh tolerably firm, lower part of leg and foot pitted from the first."	Temperature increased.	In course of vessels.	
Case 29. A male had obstinately persistent pneumonia.—Dr. Stokes, Dub. Med. Journ., 1844.				On admission limb appeared as if for some time affected with Phlegmasia Dolens.							
Case 30. A male of 26. Tubercular phthisis.—Dr. Forbes, in Med.-Chir. Trans., vol. xiii., and in Med.-Chir. Rev., vol. xii.		Left lower.	Pain at an early period in ankle, calf, knee, ham, groin, and lower part of abdomen.	Pain and swelling began together.		Double the sound.	Whiter than natural.	When first seen, pitted everywhere.	"Hot."		"Tender on pressure."
Case 31, æt. 34. Had an attack of puerperal fever.—Dr. Rigby, Lond. Med. Gaz., vol. 17, p. 121.	9th day from delivery.	Left thigh.	9th, pain at <i>outside</i> of thigh, from ilium to knee, exactly in course of inguino-cutaneous nerve.	In evening of 9th day a slight swelling was perceptible, which increased somewhat next day.		Thigh increased in circumference one third.				Severe at outside of thigh.	Tender in course of the nerves.
Case 32. "A case of phlegmasia dolens."—Dr. Graves, in Ryan's Journal, vol. 3, p. 360.			"A case of Phlegmasia Dolens."								
Case 33. Placenta artificially removed; had abdominal uneasiness afterward.—Dr. Every Kennedy, in Dub. Med. Journ., 1840.	10th day from delivery.	Left lower.	Began in calf, (?) proceeding up thigh on the day of attack.	Began in calf and extended up thigh on day of attack.	Within four or five days.	Inferred to be considerable.	Not stated for first four or five days, when a redness was observed over the saphena.			"Acute pain."	Tenderness in iliac region on 1st day.
Case 34, robust.—Med.-Chir. Rev., vol. i.	Time after delivery not stated.	Left lower.		On 8th day, from the toes to the groin, extending up into axilla.		"Twice the natural size."		"An elastic, doughy, œdematous feel, not pitting."			

TABLE III.—*Cases of Phlebitis, and certain*

CASES.	Degree of hardness.	Temperature.	Pain.	Tenderness.
Case 25. A male after an attack of puerperal fever.—London and Monthly, 1842.	After 16th day "began to assume in lower part the character of simple œdema."		"Swelling, pain, and tension."	
Case 26. A female three weeks after childbirth.—Lond. Med. Gaz., 1838.	Not pitting.		Much pain in leg and thigh.	
Case 27, æt. 40. Ulcer on uterus, great lumbar region and thigh.—Lond. Lancet, 1833.	Elevated hardness along saphenous vein. On 7th pitted on pressure.			Great in the track of the vein.
Case 28, æt. 40. Cerv. uteri. Seized with pains in the hypogastrium.—Med.-Chir. Trans., vol. 10.	"Thigh tolerably firm, lower part of leg and foot pitted from the first."	Temperature increased.	In course of vessels.	
Case 29. A male with a very persistently persistent phlebitis.—Dr. Stokes, Dub. M. 1844.				
Case 30. A male with a very persistently persistent phlebitis.—In Med.-Chir. Trans. and in Med.-Chir. Rev.	When first seen, pitted everywhere.	"Hot."		"Tender on pressure."
Case 31, æt. 34. Attack of puerperal fever.—Rigby, Lond. Med. 17, p. 121.			Severe at outside of thigh.	Tender in course of the nerves.
Case 32. "A case of masia dolens."—Dr. Ryan's Journal, vol. 1.				
Case 33. Placenta removed; had abdominal tenderness afterward.—Kennedy, in Dub. Med. 1840.			"Acute pain."	Tenderness in iliac region on 1st day.
Case 34, robust.—M. Rev., vol. x.	"An elastic, doughy, œdematous feel, not pitting."			

others reported as Phlegmasia Dolens, proving Fatal.

State of vein, glands, &c.	Constit. symptoms at first; before or after local.	Constit. symptoms of lymph- in later stages, nerves, &c.
"On the surface are several vessels."	March 8th. Severe rigors followed by profuse sweats, several days after first pains.	Died sudden
Numerous superficial veins and great tenderness, and elevated hardness along femoral, &c.	Rigors and fever before swelling began.	Gradually subsided from uterine disease.
Pain in course of the saphena traced by its hard knotted feel from the first.	From the first attended by some febrile excitement.	Gradually improving.
	Broken down and exhausted with all symptoms of purulent poisoning of the blood.	During 2 mortuary, vein and no intermission agglutinated the symptoms thereafter.
Subcutaneous veins about the ankle distinctly marked.		Lymphatic glands of groin were enlarged."
No pain on pressure of femoral vein at groin.		Lymphatics of groin slightly enlarged, & some induration around. Glands along the vessels and those on left side enlarged, soft and normal.
	Fever, inflammation of mucous membrane of lungs and intestines.	Diarrhœa, typhoid, lymphatics in groin large and indurated with sebum and matted together by condensed cellular tissue.
Redness along saphena major on 5th day, extending subsequently to calf and leg.		Seized on 5th day with gangrene of upper part of thigh.
	Early became typhoid.	Chain of glands and sheath of vessels from groin to a filbert; color scarlet, purplish; same along saphena major sheath from groin to ham.

others reported as *Phlegmasia Dolens*, proving *Fatal*.

State of vein, glands, &c.	Constit. symptoms at first; before or after local.	Constit. symptoms in later stages.	Duration.	General remarks.	State of cellular tissue.	Veins of the limb.	Veins of pelvic viscera.	State of lymphatics, nerves, &c.
						All the veins of the affected limbs plugged with a thick, tough, grumous clot, making them firm, hard and dense to touch. Coats show not the slightest trace of thickening.		
"On the surface are several vessels."	March 8th. Severe rigors followed by profuse sweats, several days after first pains.	Died suddenly.	About 3 weeks?			Femoral vein red and thickened with abrasions of lining membrane as far as junction of iliac and cava. Left femoral filled with adherent coagula.	"The uterus was vividly red from congestion of blood at its fundus."	
Numerous superficial veins and great tenderness, and elevated hardness along femoral, &c.	Rigors and fever before swelling began.	Gradually sunk from uterine disease.				Femoral veins filled with lemon-coloured fibrine, adherent, the saphena blocked up and coats of iliacs thickened.		
Pain in course of the saphena traced by its hard knotted feel from the first.	From the first attended by some febrile excitement.	Gradually improving.	Died of uterine hemorrhage.		About lower part of uterus indurated, around the veins a little thickened.	The internal, external, and common iliac, femoral, profunda and internal saphena completely impervious. The left veins sound.	Hypogastric veins plugged.	
	Broken down and exhausted with all symptoms of purulent poisoning of the blood.	During 2 months no intermission of the symptoms.		Reported as chronic phlebitis.		Vena cava reddened, and with femoral filled by adherent coagula. The saphena obliterated and cord-like.		Artery, vein and nerve agglutinated together.
Subcutaneous veins about the ankle distinctly marked.					The whole infiltrated with a limpid fluid.	Left common iliac distended with coagula to size of vena cava, and femoral and external iliac filled by firm coagula lined with adventitious lymph.		"Lymphatic glands of groin rather enlarged."
No pain on pressure of femoral vein at groin.			7 days.		Fascia at femoral ring condensed and full of pus.	The inner coat of the femoral, the internal and external iliac and vena cava had not the slightest vascularity or thickening.	Pus under the peritoneum and in the substance of the fundus uteri.	Lymphatics of the groin slightly enlarged, & some infiltration around. Glands along the iliac vessels and aorta on left side enlarged, soft and vascular.
	Fever, inflammation of mucous membrane of lungs and intestines.	Diarrhœa, tympanitis.			Subcutaneous cellular tissue infiltrated with serum; cellular puruloid matter; those near the membrane thickened foot filled with coagula. Vena and opaque; superficial fascia dense and white.	The iliac, femoral, popliteal, and both saphenas full of brownish cellular puruloid matter; those near the membrane thickened foot filled with coagula. Vena and opaque; superficial fascia dense and white.	"Loaded state of the spermatic veins."	Lymphatics in groin large and infiltrated with serum, and matted together by condensed cellular tissue.
Redness along saphena major on 6th day, extending subsequently to calf and leg.		Seized on 17th day with gangrene of upper part of thigh.	19 days.		"Extensively infiltrated with clear serous fluid."	Vena cava, femoral and saphena, showed some thickening of coats; femoral vein contained a tube of lymph.	Not all examined, but in one or two, of the uterus, saw traces of lymph.	
	Early became typhoid.		18 days.		Around the iliac artery, cellular tissue infiltrated with serum.	Not a trace of morbid action in internal coat of the arteries or veins.	Vessels of uterus enlarged.	A chain of glands around sheath of iliac vessels from a pea to a filbert; red as scarlet, purulent; same along femoral sheath from groin to ham.

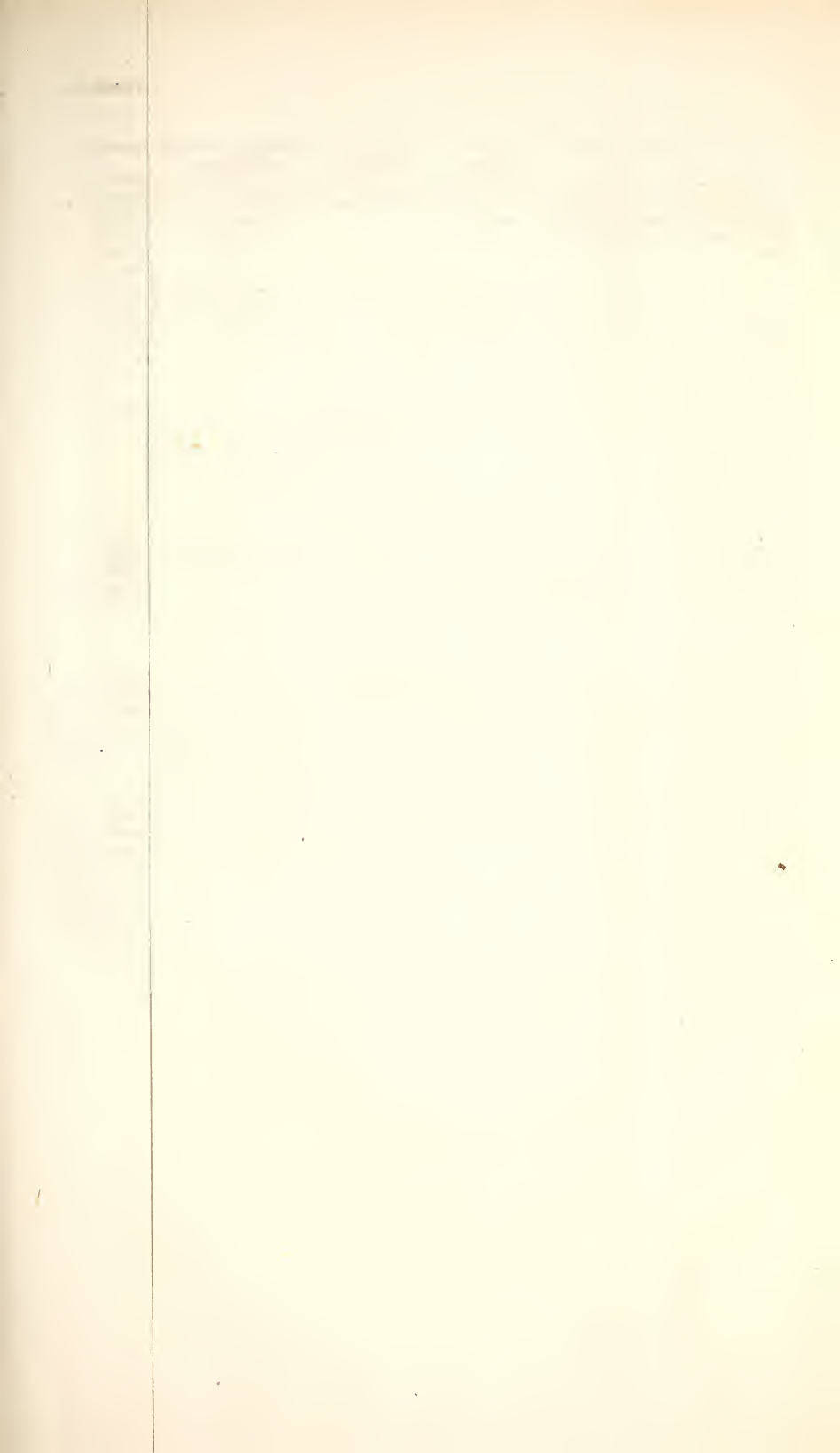


TABLE III. *Continued.*—Cases of *Phlebitis*, and certain

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.	Pain.	Tenderness.
Case 35. Edema during pregnancy, and tremendous hemorrhage during delivery.— <i>Lond. Med. Repository</i> , June, 1825.	15th day after delivery.	Left lower.	On 1st day in loins and hip.	2d day whole limb swollen.	After several days.	Twice the size of the sound one.	Not stated at first. On 3d day leg was purple.		Leg and foot completely cold.	"Excruciating," and instant paralysis from knees to toes when it came on.	Tenderness in and about the ham at first, and then insensible.
Case 36, 18 years old. From 5th to 16th day had rigors, &c. On 20th pain in groin and left side of pelvis. On 30th day evident internal suppuration.— <i>Velpeau, Arch. Gén.</i> , Oct., 1824.	41st day after delivery.	Left lower.	In hip and groin, extending soon to the whole limb.		43d day.			On 43d from delivery "the limb is entirely infiltrated."		Violent pain.	Pressure gave pain only in the groin.
Case 37, wt. 35. 4th day, deep, severe pain in pelvis; occasional rigors and increased pains until the 12th day.— <i>Velpeau, Archives Gén.</i> , Oct., 1824.	12th day from delivery.	Both, especially the left.	On 12th from delivery, in loins and pelvis, shooting down into the thighs.		Swelling general on 13th day.	"Much swelled."	Nat. stated at first. On 21st day both red.			"Painful."	
Case 38. Favourable delivery.— <i>Month. Journ.</i> , (Lond. & Ed.), December, 1845, from <i>Ann. de Thérapeutique</i> , Oct., 1845.	4th day from delivery.	Both lower.	On 4th in right leg and thigh.	Evening of the 4th.		"Very large."	On 4th a vivid red hue, 9 lines broad, the whole length of the limb, the remainder of a dull white redness; on 7th nearly gone.	Swelling on 4th, boggy as if infiltrated.	Warm.	On 7th pain in abdomen; on 12th complete inability to move lower limbs; on the 4th intense in the leg and thigh.	On 12th no pain nor pressure over the pubes.
Case 39, wt. 26. Protracted labour; placenta removed with some difficulty.—From <i>Dr. Lee's Treatise in Select Med. Lib.</i> , p. 301.	End of three weeks from delivery.	Left lower.	A few days after labour, great tenderness over uterus with pyrexia. End of 3 weeks the whole extremity became painful & swollen.	Pain and swelling together.		More than double the sound.	Colourless.	Tense.	Hot.		Exquisite over veins.
Case 40. A girl wt. 22. Cause presumed to be rheumatism.— <i>Dr. Anthony T. Thompson, London Lancet</i> , 1838-9, (11), p. 538.	June 7th.	Left lower.	Seized on 1st day with pain in hip, thigh, leg and ankle.	Swelling general from the first.	From the first.	"Extremely swollen."	Redness on first day, disappearing on the second day.	"Extremely tense."			The least pressure caused severe suffering.
	10th.	Right lower.				"Swollen."		"Tense."		"Painful."	

TABLE III. *Continued.*—Cases of *Phlebitis*, and certain

Caswell-	Degree of hardness.	Temperature.	Pain.	Tenderness.
<i>Case 35.</i> Œdematous at nancy, and tremulous day rhage during deile. Med. Repository;		Leg and foot completely cold.	“Excruciating,” and instant paralysis from knees to toes when it came on.	Tenderness in and about the ham at first, and then insensible.
<i>Case 36,</i> 18 years; 5th to 16th day h On 20th pain in side of pelvis. evident internal : Velpeau, Arch. G	On 43d from delivery “the limb is entirely infiltrated.”		Violent pain.	Pressure gave pain only in the groin.
<i>Case 37,</i> æt. ed at deep, severe past day occasional rigors pains until the 1 peau, Archives G			“Painful.”	
<i>Case 38.</i> Favoid red —Month. Journ., broad, December, 1845, length Thérapeutique, Che re a dull ss; on one.	Swelling on 4th, boggy as if infiltrated.	Warm.	On 7th pain in abdomen; on 12th complete inability to move lower limbs; on the 4th intense in the leg and thigh.	On 12th no pain on pressure over the pubes.
<i>Case 39,</i> æt. 2ss. labour; placenta some difficulty. Lee’s Treatise in Lib., p. 301.	Tense.	Hot.		Exquisite over veins.
<i>Case 40.</i> A girl on first presumed to be earing Dr. Anthony Tidd day. London Lancet, p. 538.	“Extremely tense.”			The least pressure caused severe suffering.
	“Tense.”		“Painful.”	

others reported as Phlegmasia Dolens, proving Fatal.

State of vein, glands, &c.	Constit. symptoms at first; before or after local.	Constit. symptoms in later stages.	State of lymphatics, nerves, &c.
	Soon after accession of local symptoms there was rapid and extremely feeble pulse; great anxiety of countenance.	Some days after the amputation seized with shivering and died.	The nerves were sound.
		Irregular fever, sloughs on sacrum, &c.; death.	Lymphatics in groin much swelled and red.
	Fever with pain in pelvis simultaneous.	Diarrhœa, tympanitis, dyspnœa; death.	Inguinal glands double or treble natural size; some with thoracic duct containing the same as the veins.
On 10th a phlyctena formed on inside of thigh, discharging reddish serum. On 18th, pus abundantly.	Fever at the first; on 11th lochia purulent, and slough began on sacrum.	18th day fever increased; œdema of palpebræ; 22d, respiration laborious; 23d, pulse thready.	Popliteal and inguinal glands enlarged, hard, whitish-gray, and several contained pus.
Femoral vein exquisitely tender, indurated and enlarged in upper thigh, and fullness and tension in seat of iliac vein.	Adynamic fever.		Several glands near cava and iliac veins in a state of suppuration.
On 2d day subcutaneous veins greatly enlarged, no particular pain in the course of the veins.	Acute fever at first.	On 3d day required tonics; prostration, tympanitis and lethargy.	
Considerable enlargement of subcutaneous veins.			

others reported as *Phlegmasia Dolens*, proving *Fatal*.

State of vein, glands, &c.	Constit. symptoms at first; before or after local.	Constit. symptoms in later stages.	Duration.	General remarks.	State of cellular tissue.	Veins of the limb.	Veins of pelvic viscera.	State of lymphatics, nerves, &c.
	Soon after accession of local symptoms there was rapid and extremely feeble pulse; great anxiety of countenance.	Some days after the amputation seized with shivering and died.		Amputation of the limb was performed.	Of the amputated limb infiltrated with serum.	Veins distended with coagulated blood, coats thickened and very much inflamed; veins of the other limb sound.		The nerves were sound.
		Irregular fever, sloughs on sacrum, &c.; death.	60 days.	Heart and larger veins and pulmonary artery filled with pus and altered blood; articulations of pelvis filled with puruloid matter.	Lower half of body infiltrated with serum.	The saphena, and femoral and profunda red externally, coats thickened.	Hypogastric red and thickened coats.	Lymphatics in groin much swelled and red.
	Fever with pain in pelvis simultaneous.	Diarrhoea, tympanitis, dyspnoea; death.	Dating from incursion of pain in pelvis 16 days.		Limb extremely swelled and oedematous, with vast abscesses between the muscles.	Puriform fluid in most of veins of left side, the hypogastric and femoral.	Deposits of pus in hypogastric vein in uterus and in one ovary.	Inguinal glands double or treble natural size; some with thoracic duct containing the same as the veins.
On 10th a phlyctena formed on inside of thigh, discharging reddish serum. On 18th, pus abundantly.	Fever at the first; on 11th lochis purulent, and slough began on sacrum.	18th day fever increased; oedema of palpebrae; 22d, respiration laborious; 23d, pulse thready.	19 days.	Gangrenous ulcer of sacrum. The tissue of the uterus had lost all consistency.	Of right limb, grayish and soaked, and dissolved as it were in serum; pus in the right lung.	Very extensive affection of the veins of the limb, with clots in vena cava and in auricle.	Veins of left ovaries tumefied and softened and covered with pus; inner surfaces of uterus covered with decomposed blood and pus in sinuses and veins.	Popliteal and inguinal glands enlarged, hard, whitish-gray, and several contained pus.
Femoral vein exquisitely tender, indurated and enlarged in upper thigh, and fullness and tension in seat of iliac vein.	Adynamic fever.		About two weeks.	Uterus and rectum adherent, and a pint of pus between placenta adherent.		Iliac and femoral veins to middle of thigh filled with lymph and pus, thickened. Vena cava below hepatic veins plugged with lymph.	Branches and trunk of left internal iliac full of purulent fluid, and inner surface lined with false membrane of a black colour, and coats soft and shreddy.	Several glands near cava and iliac veins in a state of suppuration.
On 2d day subcutaneous veins greatly enlarged, no particular pain in the course of the veins.	Acute fever at first.	On 3d day required tonics; prostration, tympanitis and lethargy.	6 days.			Both common iliacs plugged by fibrine, and all the veins filled with coagula.	Veins of uterus somewhat distended by coagula.	
Considerable enlargement of subcutaneous veins.								

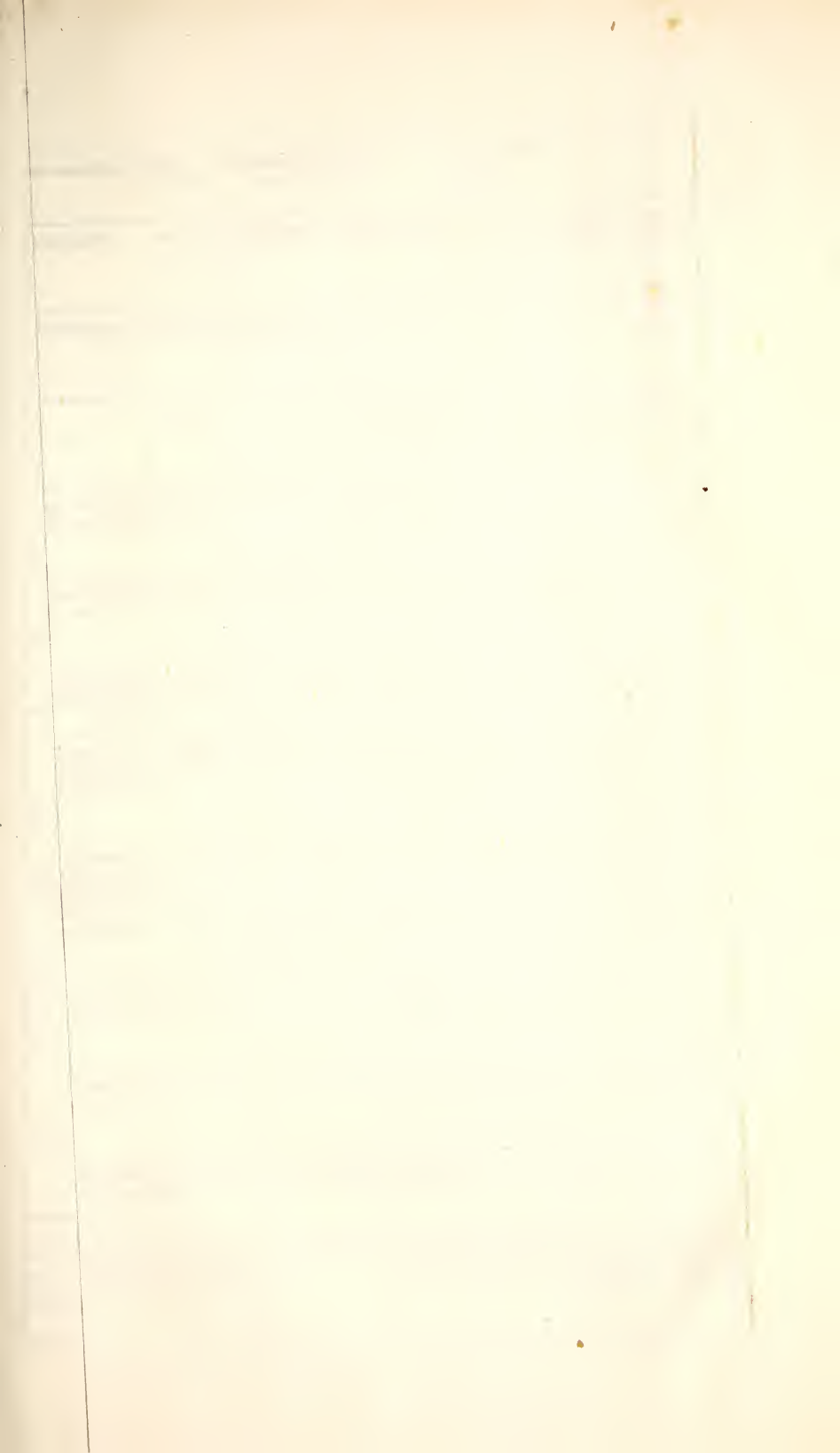


TABLE IV.—Cases of *Phlebitis*, and certain others

CASES.	Date of attack.	Limb affected.	Where and when pain began.	Where and when swelling began.	How soon swelling general.	Degree of swelling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 41. A girl of 18 years, nearly recovered from phlegmonous inflammation of the leg.—Lond. Lancet, 1832, 3, (1).	June 5th.	Both lower.	1st day pain in thigh.	General swelling rapidly supervened.		“Both enormously swollen.”		Tense, subsequently pitting on pressure.	“Hot.”
Case 42. <i>Æt.</i> 40, feeble.—Lond. Med. Gaz., vol. xv., p. 870.	A few days after delivery.	Both lower.	Commenced in major saphena vein.	On invasion of the thigh “all the characters of phlegmasia dolens” supervened.					
Case 43. A young lady, sudden suppression of catamenia from cold, followed by great uterine tenderness.—Dr. Lee on Crural Phlebitis, in <i>Sel. Med. Library</i> , p. 313.		Left lower.				“Swollen.”	“Not discoloured.”	The thigh did not pit; the leg retained the impression of the fingers.	“Hot.”
Case 44. A young woman, 5th day from delivery, acute pain in uterus, rigors, suppression of lochia.—Dr. Lee, <i>Med. Chir. Trans.</i> , vol. xv., p. 389.	7th from delivery.	Left lower.	On 7th pain extended into the groin and upper part of the thigh.	On 7th considerable swelling of calf of leg.		On 13th day from delivery the limb was double the size of the sound one.	“Pale and shining.”	Along the tibia and back of the foot it pitted on the 13th day.	Hot.
Case 45. Severe uterine inflammation after delivery.—Dr. Lee, <i>Med. Chir. Trans.</i> , vol. xv.	3 weeks after delivery.	Left lower.	Acute pain suddenly attacked the calf of the leg.	Pain soon followed by increased heat and swelling.		Considerable on the 3d day.		On 3d day pitted along the tibia on firm pressure.	
Case 46. <i>Æt.</i> 23, without previous pyrexia.—Dr. Elliotson, <i>Lond. Lancet</i> , 1837, 8, (1), p. 567.	22d day from delivery.	Right lower.	Pain commenced in the thigh, extending up to the hips and down to the leg.	Swelling “soon” commenced, and with the pain increased for 15 days.		“Much swollen.”			
Case 47. <i>Æt.</i> 39, very irritable; 4th day after delivery had acute pain in uterus, and symptoms of inflammation, for which she was leeches, until 7th day, when rheumatic pains seized the hip.—Lond. Lancet, 1835, 6, (1).	22d day after delivery.	Right lower.	Says she felt the pain and swelling gradually proceed from the womb into the thigh, and down the leg; afterwards acute pain in calf of the leg.			Twice the size of the left.		Tense.	
Case 48. <i>Æt.</i> 40, had placenta previa and profuse hemorrhage before and after delivery.—Lond. Lancet, 1834, 5, (11).	10th day after labour.	Both lower.	On 8th day seized with acute peritonitis; pain and swelling seized first the left and then the right limb.			“Much swollen.”	“Much whiter than the other.”		Very hot.
Case 49. Middle aged, had puerperal peritonitis, &c., apparently convalescent.—Dr. Stokes, <i>Dub. Med. Journ.</i> , vol. vi.	Not stated, but over 3 weeks from delivery.	Left lower.	Suddenly seized leg and thigh.	Universally and equally enlarged.	By 2d day.		A deep purple hue in some places, almost black, and more or less of a mottled appearance.	Elastic.	“Hot.”
Case 50. Female, <i>ætat.</i> 26, convalescing from fever; menses suppressed on the third day of their appearance.—Dr. Watson, <i>Lond. Lancet</i> , 1833, 4, (1).	Sept. 26.	Right lower.	Pain began in right groin, extending to the knee.	On 2d day it was enormously swollen.				Tension very great.	Hot.
Case 51. A male, convalescing from excision of ends of ununited humerus.—Mr. Syme, of Edinburgh, see <i>Lond. Lancet</i> , 1834, 5, (11).			Pain commenced suddenly in groin and calf of the leg.	“Soon” swelling of thigh and leg.	2d day.			Tense and elastic on 2d day.	
Case 52. A young woman; fifth day from delivery had acute pain in uterus, with rigors, and suppressed lochia.	On 7th day from delivery.	Left lower.	On 7th pain extended to left groin and upper part of the thigh.	A considerable swelling of calf of leg took place.		Nearly double the sound.	Pale and shining.	On 13th day pitted on tibia and back of foot.	Hot.
Case 53. A sailor, <i>ætat.</i> 23, had, for several days, pain in abdomen and loins; was improving up to June 26th.—Dr. Bright, <i>Lond. Lancet</i> , 1831, 2, (11).	June 28.	Left lower.	First day in whole limb, but most marked in the course of the femoral vessels.	On 1st day general tumefaction.	1st day.	For 14 days fluctuated in size; on 19th, after rigors, rapidly increased.	On 44th day “still presents a shining appearance;” redness, incidentally alluded to.	On 2d day limbated “tense, the leg a little œdematous; in later stages great œdema of leg and foot.”	

TABLE IV.—Cases of *Phlebitis*, and certain others

welling.	Colour of swelling.	Degree of hardness.	Temperature.
Case 3. Formously vered from leg.—Lo		Tense, subsequently pitting on pressure.	"Hot."
Case 4. Gaz., vol			
Case 45. sion of great utei Phlebitis,	"Not discoloured."	The thigh did not pit; the leg retained the impression of the fingers.	"Hot."
Case 46. from de- livery, limb was pression size of the Trans., v	"Pale and shining."	Along the tibia and back of the foot it pit- ted on the 13th day.	Hot.
Case 47. le on the delivery.— xv.		On 3d day pitted along the tibia on firm pressure.	
Case 48. nollen." rexia.—Dr (1), p. 567.			
Case 49. size of the after deliv symptoms leeches, un seized the		Tense.	
Case 50. nollen." profuse her —Lond. L	"Much whiter than the other."		Very hot.
Case 51. tonitis, &c. Stokes, Dut	A deep purple hue in some places, almost black, and more or less of a mottled appearance.	Elastic.	"Hot."
Case 52. from fever; day of their Lancet, 183		Tension very great.	Hot.
Case 53. cision of er Syme, of Ed 5, (11).		Tense and elastic on 2d day.	
Case 54. double the delivery had and suppress	Pale and shining.	On 13th day pitted on tibia and back of foot.	Hot.
Case 55. days fluctu- ral days, pain ze; on 19th, proving up t Lancet, 1831	On 44th day "still presents a shining appearance;" redness, in- cidentally alluded to.	On 2d day limb "tense, the leg a little œdematous; in later stages great œdema of leg and foot."	

reported as Phlegmasia Dolens, not proving Fatal.

Pain.	Tenderness.	State of
"Pain."	Exquisite in course of vessels.	On day of abs traced to a ha subsequently the developed.
		Pain began in s; traced knee; it was the ute- gradually appro down the invaded. l.
"Painful;" the limb was completely deprived of the power of moving.	Great over the vein.	Femoral vein like a large har and the iliac ca
	Great on inner side of thigh, ham, and calf; no complaint on the strongest pressure upon outer surface.	Femoral vein tender, and felt of saphena diste
Acute in calf at first.	Great in calf, ham, and inner surface of the limb to the groin.	Femoral vein swelling under Poupart's glands sensibility in th enlarged and pa
"Violent shooting pains."	Extreme, particularly in tract of femoral vessels.	The femoral v of thigh. of femoral, popod illus- tender.
		Exquisitely p vein.
	Excessively tender.	On being ask me. severe, she trac saphena vein fro
"Violent pain."	"Exquisitely sensitive."	Apparently no little or no swell
Painful, especially as she pointed out, in the course of the femoral ves- sels.		Pain in the co
	"Very sensitive to pres- sure."	On 2d day an l weeks. cially in course, asia Do-
	Great pain on pressure on inner surface of limb; none on the outer.	On 13th femc ht limb inches under l when pressed, a of saphena diste
On 1st day marked tenderness along the femoral vessels; afterwards pain and tenderness acute along groin, iliacs, and femoral vessels, and in the ham, greatly aggravated on motion.	On 19th day could not bear slightest touch to the limb.	On 4th day car g femo- to any part of th no pain;

reported as *Phlegmasia Dolens*, not proving *Fatal*.

Pain.	Tenderness.	State of veins, glands, &c.	Constitutional symptoms at the first; before or after local.	Constitutional symptoms in later stages.	Duration.	General Remarks.
"Pain."	Exquisite in course of vessels.	On day of attack the left femoral vessels traced to a hard line along their course; subsequently the superficial veins remarkably developed.	Fever on same day, with appearance of local symptoms.	Great fever and restlessness.	55 days.	The right seized June 15th. The limbs recovered their natural appearance.
		Pain began in saphena major just above the knee; it was swelled, hard, and painful, gradually approaching the femoral, which it invaded.	Fever light at onset, aggravated when lochia suppressed, typhoid throughout.	Recovered with much difficulty, and long weakness.		The inflammation moved along the iliaes; traced by the progress and extension of pain to the uterus, when the lochia ceased; it then went down the left iliac, and swelling of left limb ensued.
"Painful;" the limb was completely deprived of the power of moving.	Great over the vein.	Femoral vein, under Poupart's ligament, like a large hard cord, and pressure over it and the iliac caused great suffering.	Pulse rapid, great irritability of stomach, and depression of strength.		The extremity remained weak for some months afterwards.	
	Great on inner side of thigh, ham, and calf; no complaint on the strongest pressure upon outer surface.	Femoral vein, for three or four inches, tender, and felt like a hard cord; branches of saphena distended, not painful.	Prostration, rigors, &c., before pain in thigh.		On 40th day gradually recovering, though limb still swollen and painful.	
Acute in calf at first.	Great in calf, ham, and inner surface of the limb to the groin.	Femoral vein felt considerably indurated under Poupart's ligament, and increase of sensibility in their course; inguinal glands enlarged and painful.	Slight constitutional disturbance.			At the end of nearly four months the swelling gone, but the limb stiff and feeble, and the glands now suppurating.
"Violent shooting pains."	Extreme, particularly in tract of femoral vessels.	The femoral veins full, indurated, and tract of femoral, popliteal, and crural exquisitely tender.	Considerable fever.	Prostration.	In 63 days recovered.	On 24th had an abscess in upper part of thigh. Dr. Elliotson remarks, this was "a good illustration of the disease <i>Phlegmasia Dolens</i> ."
		Exquisitely painful in course of femoral vein.				
	Excessively tender.	On being asked where the pain was most severe, she traced precisely the course of saphena vein from ankle to inside the knee.	Some fever.	Required tonics.		Remained swollen and stiff for some time.
"Violent pain."	"Exquisitely sensitive."	Apparently no corded state of saphena; little or no swelling of lymphatics.				
Painful, especially as she pointed out, in the course of the femoral vessels.		Pain in the course of femoral vessels.	12 hours after local symptoms had severe rigors.	On 10th day required stimulants and tonics.	On the 8th day was going on fairly.	
	"Very sensitive to pressure."	On 2d day an induration perceptible, especially in course of femoral vein.	On 2d day frequent black vomitings, succeeded by hiccup; pulse 150.		In 5 days the inflammation subdued.	He was left very debilitated for several weeks. It was "similar in all respects to <i>Phlegmasia Dolens</i> of puerperal females."
	Great pain on pressure on inner surface of limb; none on the outer.	On 13th femoral vein, for three or four inches under Poupart's ligament, painful when pressed, and felt like a cord; branches of saphena distended.	Rigors at first, with pain in uterus.	Great prostration.	On 39th day limbs still swollen and painful.	After a few days from the attack the right limb similarly affected.
On 1st day marked tenderness along the femoral vessels; afterwards pain and tenderness acute along groin, iliaes, and femoral vessels, and in the ham, greatly aggravated on motion.	On 19th day could not bear slightest touch to the limb.	On 4th day cannot bear the slightest touch to any part of the femoral vein.	Moderate fever from the first till the 28th, when rigors came on, which yielded after 2 days.	Erysipelas supervened on 21st day, apparently from leech bites.	At the end of 74 days the thigh measures 22½ inches, the calf 14½ inches, the ankle 11 inches.	In October a hardness perceptible along femoral vessels, the swelling undiminished, no pain; walked with tolerable freedom.



a sense of heaviness about the pelvis, indicative of disturbance in the pelvic viscera; or, as in many cases, by an attack of puerperal fever. Mr. Trye says, "a greater or less degree of puerperal fever has in every case preceded the attack." Levret says, "the patient complains of dull pain in one or both groins, of weight in the pelvis, and of weakness in one or both thighs according as it affects one or both sides." According to Hull, fever sometimes precedes the local symptoms, sometimes arises after their appearance, and sometimes arises simultaneously with them. Dr. Dewees* says, that "fever is always present, and sometimes to an alarming degree." This fever, says Mr. White, sometimes subsides in two or three weeks; in other cases, it continues six or eight weeks, "with quick pulse and hectic symptoms."

Sometimes the limb is restored to its natural condition in a few weeks; in other cases the limb continues œdematous and more or less feeble for several months, until eventually it is reduced to nearly or quite its natural size. In a few instances this unpleasant condition continues through life.

The characters, then, upon which all authors agree, and which, therefore, may be deemed essential to a *fully developed* case of this disease, may be thus enumerated.

1st. A pain of great severity, commencing for the most part in the groin, and passing down the inner surface of the thigh and leg to the foot, particularly in the course of the femoral vessels; but not unfrequently commencing in the calf,† and extending upward to the thigh and hip.

2d. The sudden occurrence of swelling within twenty-four or thirty-six hours after the commencement of the attack; beginning usually at the groin, sometimes in the ham, and in either case rapidly involving the whole or greater part of the limb; being of the natural colour of the skin or even whiter; smooth, even, and glossy; for several days retaining not at all, or but slightly, the impression of the finger, but eventually pitting on pressure; above the natural temperature; and often excessively sensitive to the touch, especially on the inner surface.

3d. A fever always accompanying the local affection, not unfrequently becoming hectic even at an early date.

4th. The swelling may entirely subside in a few weeks, but it often leaves the limb in an œdematous state, with a varicose condition of the veins for months afterward.

In short, its leading characters are embraced in the summary of a Danish writer, Callisen:—"Tumour elasticus, albescent, renitens, calidus, dolens, foveam impressi digiti haud retinens."

Any affection of the limb answering to these conditions, whether in the

* Amer. Journ. Med. Sci., vol. v. p. 77.

† In the latter case, Dr. Lee has always found tenderness on pressure in the groin, and over the femoral vessels.

puerperal or non-puerperal state, in male or female, may be considered a case of phlegmasia dolens.

The two particulars in which it differs from all other swellings are, the colour, and its not retaining the impression of the finger at first, but subsequently pitting. These then are to be considered the *diagnostic* symptoms.

Mr. White says, "the pathognomonic symptom is a *swelling of the whole labium pudendi* on the same side only;" and that it is confined so exactly to it, that if a line were drawn from the navel to the anus, it would never go beyond it in the smallest degree;" every case not presenting this character, he declares, is not a case of phlegmasia dolens. Accordingly we find that in the Manchester Lying-in Hospital, under the care of Mr. White, in 8000 women delivered there, he met with only *four* cases of this affection, or *one in two thousand*; because he rejects every case in which the circumstance alluded to is not present. Now since, in regard to other symptoms, he agrees with Puzos, Levret, and Hull, we must consider the restriction referred to entirely fanciful; and this is an important point, inasmuch as Mr. White's experience is constantly quoted as showing the excessive rarity of cases of this disease in former times, while modern pathologists have found them, as a distinguished writer expresses it, "plenty as blackberries."

In connection with this point we have the recorded experience of several others. In the Westminster General Dispensary, Dr. Blaud met with five cases among 1897 patients, or *one in three hundred and eighty-nine*. Wyer* met with five cases in 900 women, or *one in one hundred and eighty*; Sanky *one in two hundred*; Velpeau five in eighty, or *one in sixteen*. Siebold met with it five times in twenty-six years; Struve fifteen times in eighteen years; Dr. Hull had four cases in three years in his private practice; Dr. Lee saw twenty-eight cases in six years; and Dr. Dewees† had seen twelve or fourteen cases exquisitely formed.

Having presented, as we believe, the symptoms of phlegmasia dolens, which may be considered *essential*, as distinguished from those which are to be looked upon as accidental, and also those which are diagnostic, we have a standard with which to compare cases that have been reported as examples of this affection. It is of course from post-mortem examinations alone, that the pathology of this affection can be with certainty ascertained; and within the last thirty years many dissections of reputed cases have been made.

It is much to be regretted that reporters of these, as well as previous observers, have watched the progress of their cases and conducted their examinations under the controlling influence of some favourite theory. Thus, for example, Dr. Hull finds an equal degree of sensitiveness in all

* Compend. de Med. Pract., Art., *Phleg. Dol.*

† Amer. Journ. Med. Sci., vol. v.

parts of the limb, and not particularly in the track of the lymphatics, where White and Trye, and others, find the glands enlarged and painful. The attention of many later contributors has been directed, in their dissection, too exclusively to the blood-vessels, and they do not state with sufficient distinctness the condition of the cellular and muscular tissues, the lymphatics and the nerves; these, with the symptoms during life, ought all to have been noted with accuracy, in order that the genuineness of the case might be placed beyond question, and all the lesions discoverable carefully recorded. Some content themselves by remarking that "the limb presented all the ordinary appearances of phlegmasia dolens;" leaving the reader to take the fact upon trust. Every such case in which we have not perfect confidence in the qualifications of the writer, to determine as to its genuineness, must, under any circumstances, lose much of its interest, and in an inquiry like the present, its value is very materially diminished.

The sources from which we have derived the cases to be presented, are the monographs of White, Hull, and Trye, the published transactions of medical societies, and communications in various journals.

The list embraces a large proportion of cases of phlegmasia dolens in the male and in unimpregnated females; the evidence of their being such, is the identity of the symptoms with those occurring in puerperal females. On this point there is abundant proof. M. Cloquet states that he has met with undeniable examples of it in males and in youths.

To Dr. Tweedie, of London, is due the credit of having first called the attention of the profession to a swelling of the lower extremity occasionally met with, as one of the sequelæ of fever. This affection was first described by him in the *Edinburgh Med. and Surg. Journ.*, vol. xxx. p. 258. He speaks of it as differing from passive œdema, in being ushered in by rigors and renewed febrile symptoms. The swelling is generally confined to one leg; commencing at the groin and extending downward; it does not retain the impression of the finger; and is colourless.

Drs. Graves and Stokes have reported several cases of the same affection, and in the *Dublin Hosp. Reports*, vol. vi. p. 28, have published a highly interesting paper upon the subject. In this paper they remark that "an accurate examination of numerous cases of phlegmasia dolens occurring after delivery, and of painful swelling during or after fever, has satisfied us of the pathological identity of the two diseases."

It may occur in the superior as well as in the inferior extremities. Dr. Ferriar* relates an instance of its occurrence in the arm. Dr. Dewees† saw an unequivocal case in the arm of a gentleman injured by being thrown from a coach. Dr. Fountain‡ "had a severe case that invaded first the left leg, then the right, and then the right arm, and then the left

* Ferriar's Med. Histories, vol. iii. p. 92.

† Loco citat.

‡ New York Journ. of Med., &c., Sept., 1845.

in rapid succession." There are also instances of its occurrence in unimpregnated females, during the existence of functional derangement or organic disease of the uterus.

The cases contained in Table I, have been selected from a large number, as being the only ones possessing in full the character of phlegmasia dolens, that proved fatal; several that excited considerable attention at the time of their publication, as those of Velpeau, and a part of Dr. Davis', as well as numerous others imperfectly detailed, have been excluded.

With respect to the genuineness of these nine cases, it seems to us no doubt can be entertained. All were of the natural colour or whiter than natural; not one pitted on pressure in the early stages; five pitted in the later stages; the symptoms attending their commencement, progress, and termination, (excepting the ninth, not so fully reported as the others,) were precisely those which we have described as constituting phlegmasia dolens. They at any rate possess the characters by which this is distinguished from any other swelling, the absence of redness, and the elasticity.

Now in five of these we have during life evidence of more or less extensive inflammation of the larger veins of the limb; and post-mortem examinations reveal the undeniable indications of it, *in all*, after death. In *five* the state of the lymphatics is not alluded to; in *two* they were unaffected; in the sixth they were slightly enlarged, but free from inflammation; in the eighth the vein was imbedded in a mass of suppurating glands. Inflammation of the veins was the prominent lesion in all.

We next have several cases which did not prove fatal, from the history of which we learn what lesions were indicated during the course of the disease. A few strongly-marked examples are selected from a large number which have been collected. (See Table II.)

If we compare these with the description already given of the genuine disease, we shall see in every instance a perfect correspondence. *Every limb* was white, or of the natural colour. *Not one* pitted on pressure, in the first stage; unless we except the four in which it occurred in the slight degree, which Hull and others assure us is sometimes met with. In *eight* limbs the swelling subsequently pitted; in the remaining ten this is not stated.

In one the limb after a time "*began*" to pit, implying that it did not at first retain the impression of the finger. The development of the superficial veins which occurred in case 18, to such a degree as to render the limb of a dusky hue, is one of the phenomena which, according to Hull and others, is occasionally met with.

In *eight* of the limbs we have unequivocal evidence of inflammation of the venous trunks; in three others the cutaneous veins were enlarged and varicose; in the remainder the veins are not alluded to.

Since phlegmasia dolens does not correspond in all respects with the

ordinary symptoms of any one of the phlegmasiæ, it becomes necessary to inquire which of these it the most nearly resembles.

"The *cellular tissue* (say Drs. Graves and Stokes*), follows the same laws as serous membranes; when moderately inflamed it throws out serum; when the inflammation is more intense it approaches lymph, and is sometimes puriform." But if, as these gentlemen contend, this be the primary and essential lesion of phlegmasia dolens, why have the inflammatory symptoms, with scarce an exception, been described as commencing on the inner surface of the limb? The testimony of Puzos and Levret is here of peculiar value, inasmuch as they both allude to its invasion of the limb *in the course of the femoral vessels, while neither dreamed of its inflammatory nature*.

The diagnostic signs of inflammation of the *lymphatics*, says Copland,† are "a tensitive, stinging and burning, superficial pain and tenderness in the course of their trunks, accompanied generally by increased heat and the appearance of reddened lines beneath the skin;"—these reddened lines or striæ are extremely sensitive to the touch, and seem like thin knotted cords placed under the skin. The parts from which the inflamed lymphatics originate, or through which they pass, are generally swollen, tense, and moved with pain and difficulty." The constitutional symptoms, according to him, differ but little from those of phlebitis. The symptoms of *Neuritis*, says Copland, are a lacerating, sharp, or lancinating pain in the situation of a principal nerve or branch of a nerve; attended by a sense of numbness, generally following the course of the nerve affected, and of its branches. "There are exacerbations on the slightest touch, or pressure, or moving the muscles, and in some cases *numbness or partial paralysis of parts below the seat of the pain*." When the nerve is superficial there is a longitudinal hardness in its course; the phenomena of irritative fever are usually present.

M. Duges‡ first described neuritis, as occurring in puerperal females, and enumerated several varieties, which, however, depend upon its co-existence with other inflammations. Dr. Copland has seen three or four cases, in one of which there were also phlebitis and arteritis.

The symptoms of *phlebitis*, when the vein is superficial, according to M. Bouillaud,§ are as follows. The member swells, becomes hot and painful, and is even the seat of phlegmonous erysipelas. The vessel feels tense, hard and knotty, or like a cord. The pain, he thinks, depends on an affection of the neighbouring nerves. Œdema is a very common attendant upon phlebitis of the larger trunks. M. Ribes says the affection is a very dangerous one. After death, we may find, according to Mr. Arnott,|| effusions of sero-purulent fluid into the pleura, hepatization and

* Dub. Hosp. Rep., vol. vi.

† Rev. Médicale, Août, 1834.

|| Med. Chir. Trans., vol. xii.

† Dict. Pract. Med., Art. *Lymphatics*.

§ See Med. Chir. Rev., vol. viii.

infiltration of pus into the lungs, into the muscular and subcutaneous cellular tissue, and into the joints.

But phlebitis, says Sir. Benj. Brodie, occurs under a variety of circumstances, and presents a variety of symptoms.* Mr. Skey, Drs. Ashwell and Elliotson remark the same, and also that its character depends upon the patient's constitution and accidental circumstances.

In the *London Medical Gazette*, vol. xxii., is a very interesting paper by Dr. Wilson upon *idiopathic phlebitis* as it prevailed epidemically in the Middlesex Hospital. Within three weeks six young women were admitted, and two already in the wards were attacked with phlebitis of the lower extremity. Of these, five had a slight redness around the legs from the ankle up to the calf, which with pain, had existed from a few days to a month. In some a slight touch at the junction of the femoral and saphena veins, caused great distress; and next to this, the most severe pain was down the inside of the thigh and leg, along the saphena major, or deeper along the femoral sheath. In one the calf was "*not red, but white, tense, shining, and much swollen, like phlegmasia dolens, with great pain extending up the inside of the thigh to the groin.*" This patient had a relapse, and the right limb became affected with a similar swelling, not so tense, white and shining as the left had been; and, on recovery, the left calf and right leg continued enlarged. In nearly all the cases the pain was severe up to the groin. Often the limbs were so sensitive that they could not bear the slightest touch of the bed-clothes. The constitutional symptoms were not necessarily severe. One case afterwards proved fatal, in which there had been much pain in the left leg and thigh, and swelling which was shining, but did not pit on pressure; after death the iliac vein as far as the vena cava, and the femoral veins were found inflamed and filled with coagulated blood; the substance of the uterus was vividly red from congestion.

With which of the phlegmasiæ now considered is phlegmasia dolens most nearly allied? Unquestionably, as it seems to us, with common idiopathic phlebitis; indeed, with the exception of the elasticity of the swelling, the resemblance may be said to be quite complete. The constitutional symptoms during the inception and progress, the condition of the limb after recovery, and the revelations of autopsies in fatal cases, all go to confirm this view.

This fact will be made more apparent, we think, by consulting Tables III. and IV. These embrace cases of which a portion are reported as phlebitis; and others as phlegmasia dolens, though imperfect in their details, in which one or more of the diagnostic symptoms of phlegmasia dolens are absent, or indistinctly expressed, while the other marks of the disease are fully declared.

After a simple comparison of the *history* of the progress of cases 25,

* See Lond. Lancet, 1840—41, vol. ii. p. 767.

26, 28, and 39, in Table III., with that of the cases composing Table I., who can doubt that the pathological condition was the same in both sets? In case 40, if we substitute *skin white*,—for “redness on the first day,” where can we find a better characterized example of phlegmasia dolens? In each of these, phlebitis was the prominent lesion discoverable after death, and only in case 39 are the glands said to have been inflamed.

The same remarks apply to cases 41, 45, 47, and 51, in which the colour is not stated; to 43 and 52, in which the leg pitted while the thigh did not pit on pressure; to 44, which should perhaps be placed in Table II; to 48, in which the density of the swelling is omitted; in each of which there was unequivocal evidence of phlebitis.*

Now where such a resemblance of general symptoms exists and such a degree of uniformity in lesions discoverable after death, the question arises can there be any essential difference between the affections? Tables III. and IV. we regard as eminently instructive, and would turn attention especially to them; since, as we conceive, they exhibit, in connection with Tables I. and II., *the gradual shading off from fully marked phlegmasia dolens, white, shining and not pitting on pressure, to the less distinctly marked cases where the colour is natural, or of an erythematous redness, generally diffused or confined to the track of the vessels, and pitting at a very early period.*

These tables then, as we think, teach—

1st. That since, in a majority of cases, more than one lesion is reported to have been found, it is extremely probable that the phenomena are not due to any one alone.

2d. That the history and revelations of fatal cases point to *phlebitis* as the *primary* lesion; while neuritis, lymphangitis, and inflammation of the cellular tissue, though occurring in a greater or less degree in almost every case, are to be considered secondary.

3d. That Tables III. and IV. exhibit phlegmasia dolens, shading off into phlebitis, without neuritis or lymphangitis or inflammation of the cellular tissue.

As a summary of the fatal cases, considering them all as more or less perfectly characterized phlegmasia dolens, we have

Phlebitis without lymphangitis, 16.

Phlebitis with lymphangitis, 7.

Lymphangitis without phlebitis, 2.

But it is objected to the phlebitic origin of the disease, that phlebitis is

* For further cases, consult Lond. Med. Gaz., vol. ii. p. 419; Amer. Journ. Med. Sci., vol. v. p. 70; New York Journ. Med. and Collat. Sci., Nov., 1845; Dub. Hosp. Rep., vol. v.; St. Thomas' Hosp. Rep., vol. i. p. 352; Lond. Med. Repos., vol. vi. p. 289; Lond. Lancet, 1836-7, vol. i. p. 879, also 1833-4, vol. i. p. 450; Dr. Lee's Treatise on Crural Phleb. in Select Med. Lib, Amer. Med. Record, 1818, pp. 180, 362, 453; N. Amer. Med. and Surg. Journ., vol. v.; Med. Chir. Rev., vol. xiii. p. 474.

a very dangerous disease;* while it is affirmed that *phlegmasia dolens* is not so. Dr. Lee himself remarks† that of phlebitis, four out of five cases die, while of *phlegmasia dolens* not one in a hundred. But phlebitis is not by any means so dangerous a disease as it is here stated to be; and the error of attributing to it almost necessarily fatal results, arises from a neglect or ignorance of the distinction between *adhesive* and *suppurative* inflammation of the lining membrane of the veins. *Suppurative* phlebitis is indeed a terrific disease, and is in a majority of cases fatal; but *adhesive* phlebitis is almost always innocuous in its ultimate effects.

On this point we have the testimony of M. Cruveilhier.‡ This eminent pathologist states that the greater number of examples of phlebitis, even when abandoned to themselves, do not exceed the degree of inflammation, which has for its results the coagulation of the blood, with adhesion of the clot to the vessels. Now this adhesive phlebitis, he says, is as common as solution of continuity of the veins. There is, he says, no childbirth without adhesive phlebitis in the uterine veins corresponding to the placenta: no amputation, no wound, no ligature of the umbilical cord, without adhesive inflammation of the divided veins; and to these instances we may also add the great immunity of operations for obliteration of varicose veins, in which inflammation is a necessary step to the cure.

The first effect of every phlebitis, says this author, is the coagulation of the blood, which becomes adherent to the inner coat of the vessel. In consequence of the interruption of the venous circulation in the inflamed vessel, the blood becomes stagnant, and unless the collateral veins suffice to return the blood, there is necessarily œdema of the extremity. The result is in almost all cases a permanent obliteration of the vessels, and the œdema remains until a collateral circulation can be established; since the venous system seems capable of carrying on a collateral circulation, as well as the arterial. As a consequence of this obstruction, the subcutaneous branches may become enlarged, often permanently. In cases 11, 16, 18, and 49, the skin, from this cause, became of a reddish-brown colour: and in that by Dr. Stokes,§ it was of a deep purple hue, in some places almost black, and more or less mottled over its whole surface from probably the same cause.

If the inflammation is neglected or treated unsuccessfully, the phlebitis which was at first adhesive becomes suppurative; pus enters the circulation, poisoning the vital fluid; and the train of purulent deposits in the lungs, joints and cellular tissue, heralds the almost inevitable approach of death.

In a vast majority of cases of *phlegmasia dolens*, the inflammation does not go beyond the adhesive stage, and is therefore comparatively harmless; but when the inflammation advances beyond this, all the terrible effects of suppurative phlebitis follow.

* See Med. Chir. Rev., vol. viii.

† Cyclop. Pract. Med.

‡ Dict. de Méd. et de Chirurg., and Anat. Pathol.

§ Dr. Joy, in Lib. Pract. Med.

Another striking support of the identity of the two diseases is the similarity in their terminations, and the subsequent condition of the limb. The Editors of the *Amer. Med. Record*, vol. i. p. 364, remark that "suppuration is not an unfrequent termination of phlegmasia dolens;" "where it does occur the abscesses are always very extensive and the disease generally fatal." Dr. Hull's experience corroborates this; and our tables afford numerous instances of secondary abscesses and purulent infiltration of cellular and parenchymatous tissues; and of limbs rendered nearly useless for months and even years, after attacks of what we think deserves to be termed phlegmasia dolens, and which were indisputably examples of phlebitis.

That the *nerves* are often to a greater or less degree involved in phlegmasia dolens, does not admit of a doubt. The symptoms of neuritis, as quoted from Copland, the lancinating pain followed by partial or complete paralysis, are peculiar to that inflammation. These symptoms are met with in phlegmasia dolens; hence we infer that when they are present, this complication exists. Besides, we have the direct evidence afforded by post-mortem examinations. The acute pain of the disease we are considering, often manifests itself in the calf of the leg, before the inflammation can be supposed to have descended below the knee; and it may be thus accounted for. The branches of the crural nerve which belong to the femoral sheath, and the long and short saphenous nerves, are more or less intimately connected with the femoral vessels. When the latter are inflamed, pains are excited in the calf of the leg through the reflex function of the spinal marrow, the calf being supplied by nerves from a different trunk, in the same manner that affections of the abdominal viscera sometimes produce cramps in the lower extremities. The degree of affection of the nerve regulates the character and degree of the pain. In those severe cases of partial or complete paralysis, the nervous trunks in immediate connection with, and branches distributed to, the inflamed vessel, are themselves inflamed, whereas in other cases, the universal sensitiveness of the cutaneous surface of the limb, so great, as in a case reported by Dr. Hustin, that the touch of a fly could not be borne, and upon which Drs. Stokes and Graves much insist, is undoubtedly a *neuralgic* affection. Dr. Graves, in his lectures, styles the disease in question a neuralgic diffuse inflammation.

That the lymphatics and the cellular tissue are not unfrequently inflamed, we also know; but neither neuritis nor lymphangitis nor inflammation of the cellular tissue can alone produce all the symptoms of phlegmasia dolens.

Of all the theories that have been proposed, that of the phlebitic origin of this affection alone, furnishes us with a sufficient explanation of the exciting cause of the disease. Compression of the lymphatics against the sharp *linea ileo pectinea* during labour, their inflammation from exposure

to cold, as well as other hypotheses, are inadequate and unsatisfactory, while on the theory of phlebitis it meets with a ready explanation.

About two years after the appearance of Dr. Davis' paper, and the first by Dr. Lee, in the *Medico-Chirurg. Trans.*, Dr. Lee, in the 15th vol., published an account of two dissections in which he found the uterine plexus, and the hypogastric veins inflamed. This condition he explains as follows: "Uterine phlebitis seems to result from mechanical injury, inflicted during protracted labour, by force required for separation of the placenta in uterine hemorrhage; from retained placenta undergoing decomposition; from cold, probably from contagion, and from various unknown causes." The patulous orifices of the venous sinuses are exposed to the air after the separation of the placenta in the same manner, as the extremity of the veins of a stump, and like them are liable to take on inflammation; the inflammation is continued along to the iliac and femoral vessels, and then appear the symptoms we have been considering. So long as the inflammation does not exceed the degree necessary to produce adhesion of the internal coats, the patient is in little danger; and this happens in the great majority of cases.

The probabilities of the truth of this explanation are much strengthened by the fact, that an attack of phlegmasia dolens is preceded in a large number by puerperal fever. Mr. Trye says, this is always so. Dr. Hull speaks of the frequent connection of the two diseases. In both puerperal and non-puerperal patients, there is in almost every case unequivocal evidence of derangement of some of the pelvic viscera; as a heavy painful sensation in the hypogastric or inguinal region; and even when the pain has first appeared in the ham, Dr. Lee, as we have before said, has always found co-existent tenderness in the groin. Andral has always found it "*associated with some lesion of the pelvic viscera*."

In the *Cyclopædia of Practical Medicine*, Art. *Phleg. Dol.*, will be found an enumeration of cases of this affection occurring towards the termination of chronic dysentery, cancer of the rectum, &c.

In phthisis pulmonalis it is well known that ulceration of the mucous coats of the large intestines is a by no means unfrequent complication; it was during the later stages of this disease that cases 9 and 30 occurred; and in one instance in the paper just referred to, the inflamed hemorrhoidal veins were traced close to the ulcers on the mucous surface of the rectum. Several of our cases are examples of its occurrence as a result of uterine derangement in the unimpregnated.

The objection to the phlebitic origin of phlegmasia dolens, that pain is sometimes absent from the course of the femoral vessels, receives an answer in the fact, that inflammation of the veins *is not necessarily indicated by pain and tenderness* in their course.* Hence there may be ab-

* In proof of this consult case 7, also Lond. Lancet, 1838, 9, vol. ii. p. 538. Med. Chir. Rev., vol. xv. p. 382.

sence of pain in the course of the vessel, while inflammation is going on to a sufficient degree to obliterate its calibre.

In that excellent work, the *Compendium de Médecine Pratique*, it is maintained that the obliteration of the veins may sometimes be due to alterations in the blood; and there are cases recorded which seem to substantiate the opinion. M. Bouchut entertains the same in an elaborate essay, accompanied by several interesting cases, in the *Gaz. Médicale*, 1844, p. 302.*

In fine, we consider that the *phenomena* of phlegmasia dolens depend not upon the existence of any one lesion alone, but upon a combination of several, in various degrees. The affection consists *primarily* in inflammation of the veins of the limb, itself probably dependent upon derangement of some of the pelvic viscera, while the inflammations associated with it are to be considered *secondary*.

The *pain* undoubtedly depends on a greater or less degree of implication of the nerves in the vicinity of the inflamed vessels.

The peculiar *hardness* of the swelling may be accounted for, 1st, by the remark we have quoted from Drs. Stokes and Graves—that the product of a certain degree of inflammation of the cellular tissue is plastic lymph. After the violence of the inflammation subsides, the more solid portions may be removed by absorption, œdema remaining in the later stages as a consequence of obstructed circulation.

Or 2dly, by supposing that in certain conditions of the constitution not now understood, the effusion into the cellular tissue consequent on obstruction of the veins is of lymph, of which the denser portions are absorbed and the serum remains. We are unable to see why the former of these two views does not afford a complete explanation of this obscure subject. We are not aware that what is assumed as possible in the second, has any parallel in pathology.

The only cases apparently militating in any degree against the view that we have taken, are cases 31 and 34. But although it is stated in the reports of both, that no marks of inflammation of the veins were discoverable, yet in Case 31 there was "*pus in the substance of the fundus uteri*," and in Case 34 the "*vessels of the uterus were enlarged*."

Furthermore, Cruveilhier observes,† that *phlebitis does not necessarily present the capillary injection and other marks of ordinary inflammation*, and that these, in fact, always vanish after the accession of the suppurative stage.

The reader, therefore, will let the cases referred to have the weight, to which in view of these considerations they may seem entitled.

* For similar cases, see Lond. Med. Gaz., March, 1839, and Lond. Lancet, 1840-1, vol. i. p. 767.

† Op. citat.

ART. III.—*Remarks on the Construction and Arrangements of Hospitals for the Insane.* By THOMAS S. KIRKBRIDE, M. D., Physician to the Pennsylvania Hospital for the Insane. (With two Plates.)

THE deep interest which, within a few years, has been manifested in the insane of this country, has necessarily led to inquiries as to the best mode of construction of buildings for their accommodation, and what constitutes the arrangements and conveniences most proper for an enlightened treatment of the malady.

So various have been the plans already adopted or suggested, that one entirely new can hardly be looked for, and if found, would almost surely lose in excellence, what it gained in novelty. It is rather by judicious combination of existing plans, and by advances in internal arrangement, that we are to expect perfection in these structures.

The important fact seems now to be pretty generally conceded—that it is very difficult for any one properly to plan a hospital for the insane, who has not had a practical acquaintance with the disease, been much with those suffering from it, and had ample opportunities of knowing the advantages and conveniences as well as the faults of existing establishments.

Scarce a hospital has yet been built, in which important changes have not been made or suggested, and where none have been made, it has often been, that the defects were of so radical a nature, that little encouragement was offered for attempting their removal.

For these reasons, most of the medical directors of institutions for the insane, have of late been frequently called upon for their views on the whole subject of location, construction and organization, as well as for detailed plans of what they believed to be essential to a good institution.

The remarks which follow are little more than what have been given in greater or less detail, on numerous occasions, to the individuals and corporate bodies who have honoured the writer by their inquiries, and in replying to which, he has felt it a privilege to be able to disseminate more widely any of the results of his own experience, which could tend to promote, even in the slightest degree, the welfare of the insane, or the advancement of an enlightened public opinion relative to the disease and its treatment. The writer does not aim at novelty, nor make any special claim to originality, he proposes only to give some of his present views on certain branches of the subject,—the result of nine years' residence among the insane, in three different institutions, a tolerable acquaintance with the arrangements and peculiarities of most of the hospitals in the United States, and the immediate care of more than twelve hundred cases of insanity.

CHARACTER OF BUILDING.—In designing a hospital for the insane, reference should of course be had to the class of patients who are to use it, and to the means which are to be devoted to its support.

When expense is no object, and when everything that money can command is to be freely employed,—the style of building, the furniture, the fixtures, and the number of persons employed, may be widely different from one where strict economy is to be observed, and the expenditures to be regulated by the moderate means of a majority of those who resort to it for relief.

Although there is no reason why the rich should not be able to possess when insane, every reasonable gratification that their income can command, still, for the great mass of the community, a different state of things will be preferred; and most of our institutions, whether state hospitals or private charitable corporations, will be erected for the reception of all classes. It will therefore be understood that, in the remarks which follow, reference is made to these, as many of my views would be materially different if consulted in respect to an establishment in which, without regard to cost, the arrangements should all be of the best and most perfect kind, and the number of patients very limited.

There is good reason to doubt, whether, as a general rule, even the most wealthy would derive any essential advantage from resorting to small private establishments, got up in the most costly style. In most cases they would probably be better cared for, if the same style of accommodations were furnished them in connection with larger and more public institutions, either by having certain portions of them properly prepared for those who were able and willing to pay for them, or what would still be better, in some cases, by having cottages provided sufficiently near the main structure to render their supervision easy and perfect, and arranging in them all the apartments necessary for a comfortable home for those who have been accustomed to all the conveniences and even luxuries of life.

SITE.—Preparatory to the adoption of any plan of building, a suitable site is to be obtained, and too much care cannot be observed in its selection. A hospital for the insane should always be located in the country, within a reasonable distance, however, of some town of respectable size, easily accessible by a good turnpike, or other road, or on the line of some railroad. If on an ordinary road, about two miles will be found a convenient distance;—if a railroad is used as an ordinary means of approach to the town, the distance may without disadvantage be considerably increased. There are many reasons why the means of communication between the hospital and town should be easy and good at all seasons, and facility of access by patients and their friends should never be forgotten in the location of such an institution.

The site should be healthy,—in a pleasant and fertile district of country,

—the scenery should be of an agreeable kind,—the landscape should embrace as much as possible that is interesting, and the neighbourhood should possess attractive objects for the visits of the patients.

AMOUNT OF LAND.—The amount of land required will vary somewhat according to the extent and character of the institution. It is now generally conceded that the grounds formerly about some of our oldest and most distinguished institutions for the insane, were totally inadequate for the proper employment of an enlightened system of treatment for their patients. It is scarcely possible to err by securing too much land about such an establishment. Let its character be what it may, not less than fifty acres should be obtained, and where the institution is large, and likely to contain many patients accustomed to agricultural pursuits,—in any state hospital, for example, not less than one hundred acres of a good quality will be required, and in some instances the possession of more will be of advantage.

This land is required, not only to give a space about the hospital, which will secure its privacy,—furnish a large amount of its supplies, and one of the proper means of exercise for its patients in rambling over its pleasure grounds,—but also as a farm and garden, to provide a species of employment, which ample experience has shown to be, for some classes, superior to all others.

The grounds immediately about the site of a hospital, should always be of a character that will admit of their being ultimately placed in a high state of tasteful improvement.

SUPPLY OF WATER.—Among other requisites, an abundant supply of pure water, at all seasons, is one of the most important. It should be estimated that at least four thousand gallons will be used daily in a hospital containing 200 patients, and provision should be made for forcing this amount into reservoirs in the highest part of the building, from which it can be readily distributed through the establishment.

It does not often happen that a steady water power, sufficient to raise this amount, is to be obtained, but when it can, it is perhaps to be preferred to all other means. A steam engine, however, can be turned to such a great variety of useful purposes, about a large hospital, that where one is used, the absence of water power is scarcely to be regretted. Horse power will answer in smaller institutions, but it is a poor substitute for the regularity and efficiency of the steam engine.

DRAINAGE.—The spot for the building should always be such as to admit of a thorough system of underground drainage. This may be made to contribute wonderfully to the fertility and productiveness of the farm, as well as tend to promote essentially the comfort and health of the inmates of the hospital.

POSITION, SIZE, AND FORM OF BUILDING.—The site having been decided on, care is to be observed in locating the building, that its parlours and other rooms occupied by the patients during the day, should have the most extensive views and the most desirable scenery, and that every possible advantage may be derived from the prevailing winds of summer.

The form of building and its internal arrangements will next require attention, and these cannot fail to exercise a marked influence upon the character of the institution during the whole period of its existence.

Without wishing to enter upon details of external architecture, it may not be amiss to observe that the style which is adopted is really of much importance, and that while all extravagance or excessive ornament is to be avoided, a building for the purpose under consideration should always be in good taste,—appropriate for the locality in which it is placed, and calculated to produce a pleasing impression on all who see it. Such a building, like highly improved grounds, cheerful and clean wards, or any other objects of interest, exercise a most favourable influence on many of the insane. Everything prison-like, or repulsive in its character—so far as is consistent with a reasonable degree of security, is to be strictly avoided.

These buildings should be well and permanently built, and should as much as possible be secured from all danger from fire,—arching is to be preferred—but its expense will generally cause counter ceiling to be adopted, and in many respects, it answers sufficiently well. All the staircases should be of iron, and the roof should be copper, tin, or slate.

Hospitals may, without disadvantage, be of different sizes, according to the class of patients who are received; as where a majority of the inmates are incurable and confined only for comfort and security, it is obvious that the number might be double that of an institution where none but supposed curable cases are admitted. The best plan, I have no doubt, however, is that where curable and incurable are alike received, and the arrangements such as to prevent any injury arising from their being in the same building.

State institutions will generally have a larger proportion of incurables, than hospitals more private in their character, and in which the higher rate of board renders them less resorted to as permanent abodes for the insane; on this account they may commonly be larger without inconveniences sufficient to counterbalance the economy which results from such an arrangement.

The number, in my estimation, however, should never be greater than will permit the chief medical officer to see each patient at least once every day. To do this properly would require all the energies of any ordinary man, if three hundred and fifty patients were collected in one state institution; two hundred and fifty I should consider a better number, and in more private corporate hospitals, two hundred should be considered the maximum. A much smaller number, even with a full corps of the best

assistants, may give ample occupation to any one really interested in promoting to the utmost the welfare of his patients. The mental and physical labour constantly required of the superintendent of an institution for the insane, renders it highly important that his usefulness should not be impaired, as has not rarely been the case, from attempting more than he can properly perform, without injury to his own health.

It is true that the wants of the community, in reference to provision for the insane, have not yet been properly appreciated in any part of the United States. There has scarce a single institution been erected to which in a short time it has not been found necessary to make important additions, and even with these the necessity for others is yet apparent. Still an addition to the number of hospitals may be much better than great increase of size.

Let the size adopted be what it may, proper apartments are required for the resident officers of the institution, and for the family of its medical superintendent,—for all the domestic operations of the house, and those engaged in carrying them out, and for the comfortable accommodation of at least five, (preferably of seven), distinct classes of patients of each sex. Each class will occupy a ward, and in, or connected with each ward, should be a parlour, a dining-room, a clothes-room, a bath-room, a water closet, a corridor with chambers on one or both sides of it, an associated dormitory, rooms for two attendants, so that one may always be present with the patients, a stairway, a dumb waiter, and a funnel for soiled clothes, dust, &c., leading to the basement story. The only exception is, perhaps, in the wards occupied by the lowest class of patients, where parlours may be dispensed with.

Special provision should also be made for the worst class of patients, that is, for the very noisy, violent and filthy, and for those whose complete isolation on any other account, is particularly desirable.

Lofty buildings are very objectionable for the insane, but a desire to combine economy with convenience, will probably lead to a general preference for a plan embracing a basement with two principal stories for the parts intended for the patients, and perhaps an additional story for those occupied by the officers and others employed about the establishment. This height I consider the greatest that ought ever to be adopted.

For hospitals of the kind under consideration, and of the size already referred to, (from 200 to 350 patients,) a central building, with wings running at right angles to it, is probably, upon the whole, the best arrangement.

This should be considered the basis of the establishment, and buildings of less elevation, and somewhat detached, be looked to as the filling up of the plan, or for any future extension that may be required.

The number of patients that may without disadvantage, be in one ward, will vary essentially, according to their mental condition;—of the quiet, or

incurable, twenty-five may not be objectionable, while of the excited, particularly if under treatment, one-half of that number would be the greatest that should be together. The fewer of such patients are together, the easier they are managed, and small communities, in an insane hospital, have always appeared to me to have the most comfortable appearance.

In arranging the form just referred to, great care should be observed, that every part has a light and cheerful appearance, and that every possible advantage is derived from natural ventilation.

The point where a wing joins the central building, or where one wing comes in contact with another, running at right angles to it, is commonly the darkest, most cheerless, and worst ventilated part of such an establishment. These defects, however, are easily obviated by leaving on each side, where the wings touch the centre building, an open space, eight or ten feet wide, with large windows from the floor to the ceiling, which may either be accessible to the patients, or very open ornamental wire-work, on a line with the corridor, may give nearly all the advantages of light, air, and prospect, without interfering with other uses to which it may be appropriated; and instead of allowing a second wing to come directly against the first, if it is placed parallel with it, but falling back just far enough to allow the corridor to be entirely clear at both extremities, and these fitted up with large windows, coming near the floor, they will always be pleasant, and all the advantages be enjoyed, that can be derived from ordinary ventilation.

In corridors like these last, when they are occupied by a class of patients, that it may be thought desirable to prevent coming in immediate contact with the end windows, an exceedingly good and tasteful arrangement may be made by separating a few feet from the window, by means of the very open, but strong wire work already referred to, and filling this space with evergreen and flowering plants. These will offer no material obstruction to the air and light, and the effect of such things upon every class, is always favourable.

The basement of the building should be a comparatively low story, one step above the level of the surrounding ground, the ceilings of the other stories to be occupied by the patients, should be twelve feet high—the parlours should be large and cheerful rooms—the chambers for a single patient, not less than eight by ten feet, nor the corridors less than twelve feet wide. Large rooms are always pleasant about a hospital, and a use can generally be found for them, but if a properly regulated system of forced ventilation is adopted, the size of rooms and the number placed in them is really of much less importance than under any common arrangement.

Where parlours are provided, and the wings arranged as suggested above, I see no objection to having the chambers of a large hospital, at least in the main structure, placed on both sides of the corridors, and there are

certainly the advantages of cheapness of construction, and a less extended building to recommend this arrangement. If the corridors are used as substitutes for parlours, then there are obvious reasons for the lodging-rooms being placed only on one side.

All the contrivances for generating heat, whether by furnaces, or other means, and all the space for the storage of fuel, should be in the cellar.

In the basement of the centre building may be the kitchen and scullery, with all the appropriate fixtures,—a dining-room for officers, and another for domestics,—a store room,—a receiving room for patients,—a sitting-room for the matron, and a lodging-room for one of the officers, or some other responsible person.

In the first story above, will be required a parlour, a general business-office,—the physicians' office and library,—and one or two rooms for the visits of persons to patients. These being in front, there may be in the rear, two large rooms for other purposes, as for associated dormitories, or for sick patients. In the second story of the centre, should be apartments for the family of the superintending physician, entirely private,—and on this or the story above, the chambers of the other officers, and such persons as it may be desirable to place in that position. In the rear of the second story, may be a large room for collecting the patients, either for religious worship, for lectures, or any other purpose.

In the top of the centre building should be the tanks for holding two days' supply of water, from which it should be distributed through every part of the hospital.

In the basement of the wings, next the centre, on the side occupied by the female patients, may be lodging-rooms for the female domestics, two work-rooms for patients, and at the extreme end, the washing, drying, and ironing rooms. On the men's side, the chambers of the hired males, two work-rooms for male patients, and at the extreme part, the bakehouse and bakers' room. In the basement of the second or extended wing, to which a passage on the side of the first leads, may be apartments for one of the lowest class of patients, (the fifth.)

The two upper stories of the wings will be entirely occupied by the wards and accommodations for the four best classes of patients of each sex.

The collecting room, referred to above, may conveniently occupy the position there assigned to it, and thus situated, it has the advantages which always attend a location in the centre building—great facility of access and supervision, and a centralization of the operations of the house. The same reasons apply for the locality given to the kitchen, the bake and wash rooms, &c.,—but if preferred, all these may be placed in a separate building, a little in the rear of the main structure. Advantages as well as disadvantages attend the first mentioned plan, although a proper arrangement of the original structure, and the erection of suitable flues will obviate the

objections usually made to these rooms being placed in a central position. Convenience of access to the work-shops adds vastly to their usefulness, and on this account it is desirable that at least some of them should be easily reached from the wards, so that patients may go to them and return as frequently as may be thought desirable.

The rooms for patients when very ill, should be at least one for each sex, should be large and airy, in a quiet part of the house—have ample means for ventilation, all the conveniences for the proper care of the sick, and, as far as may be, easy of access to the officers and nurses.

ASSOCIATED DORMITORIES.—Associated dormitories have been referred to as desirable in each ward for a portion of the patients—but the number I should recommend to be thus provided for, is much smaller than has recently been suggested by high authority. It is an important question how far they should be adopted in new institutions. So far as it can be done with advantage to the patients, there is much economy in the arrangement.

After carefully looking over the patients under my own care within a few years past, I am convinced that about one-fourth of the whole might lodge in associated dormitories, without disadvantage,—that about one-third of this number, or one-twelfth of the whole, would be benefited by this arrangement, and that three-fourths of the total number would do better, and be more contented in single rooms. The classes benefited, are the timid—those who fear being alone—and a portion of the suicidal, who require constant watching. To derive full advantage from such rooms, they should always have an attendant in them, or the attendant's room should be immediately adjoining, with an opening from it into the dormitory; and to obtain complete security, an attendant should always be awake, and in a position from which he could completely overlook the whole room.

The habits of our people make them generally averse to common lodging-rooms, and a majority of those under my care, would have the same objection to them in a hospital, as they would in a hotel or common boarding-house. With others this objection would not exist, and, as already observed, with some few there would be positive advantages more than sufficient to counterbalance all objections.

There is no novelty in the use of associated dormitories in this section of country. They were in constant use in the oldest institution for the insane in the United States, the Pennsylvania Hospital in the city of Philadelphia, for more than twenty years before the removal of that class of patients to the new buildings, and so far as I have learned, without serious accident of any kind, although the supervision there was far from being perfect. These associated lodgers, indeed, enjoyed a species of liberty that would now scarcely be accorded to any class in a well-conducted institution, and although with all these additional sources of risk, from 10 to

20 out of 100 patients, lodged together in large rooms, for so many years without any injury,—yet the impression made on those who managed that noble charity was so little favourable to the arrangement, that when they put up a new edifice, single rooms were adopted almost exclusively. One room for from three to ten patients in connection with each ward, will, beyond doubt, be convenient and useful.

HEATING AND VENTILATION.—One of the most important matters for decision, preparatory to the erection of any hospital, is the mode of heating and ventilation.

My own observations have satisfied me that pure fresh air, warmed very moderately, and introduced in large quantities into every part of the building, is the only mode which ought to be adopted, or which can give permanent satisfaction. Connected with this, must be the means for a forced ventilation—means to expel with certainty, an adequate quantity of foul air. No other plan can prove really efficient, and by attempting any other, we are only endeavouring to persuade ourselves that we have ventilation, when, at times at least, there is really none.

Whatever contrivance warms the fresh air in sufficient quantities to a moderate degree, most efficiently, and at the smallest cost, is the best, and steam at a low pressure, will probably be found most desirable for all large institutions. The ventilation must be forced either by fans, or an upward current produced by heat, the last of which seems most generally available, and requires less constant attention.

In addition to what is forced, every precaution should be taken to have full advantage of a natural ventilation, particularly in summer, when windows and doors can be freely opened, and when certain states of the atmosphere, and certain velocities of the wind, will render it very efficient. It cannot be depended upon, however, even in summer, as a steady or effectual means of replacing foul air by that which is fresh. In all the institutions I have ever seen, the radical, and generally insuperable error has been made of constructing all flues, whether for the admission of warm air, or the exit of foul, entirely too small,—generally not more than one-fourth of the proper size for the first, and for the last, so diminutive as to render them really useless. It is, therefore, always best to make the flues very large, as the size of the openings are easily regulated, and they will determine the amount of air passing through the flues.

WINDOWS.—Of the various forms of windows that have been proposed, the neatest, and at the same time a perfectly secure one, is that generally used in the wings of the Pennsylvania Hospital for the Insane. Both sash are of cast iron, of a very light appearance, each having ten lights, six by fifteen inches. They are hung in a frame cased with iron, balance each other so as to be moved with ease, and as one rises the other falls, but

only to the extent of six inches—or not sufficient to allow the escape of a patient. With this form of window, all bars, extra sash and screens are dispensed with, the appearance is precisely like that of a wooden sash, and it never produces unpleasant feelings in the patients.

A much cheaper form of window, and one which in some respects is preferable, is that which has been adopted in the additions just made to the north lodge of the same institution, and which has been substituted for the other in some parts of the main hospital. In this window the upper sash is of cast iron, as in the former; it is hung with weights, and rises and falls six inches. The lower sash is of wood, of the same pattern, and moves its whole extent. Opposite this last is placed externally a light ornamental wrought iron screen, protecting enough of the space to prevent a person escaping, and not producing any disagreeable effect on the appearance of the building. Upon the whole I consider this the best form of window for the rooms of a hospital for the insane. When a forced ventilation is used, and it is not cared to lower the upper sash, the whole arrangement is much simplified and the expense diminished, by screwing the upper iron sash fast to the frame, and depending for air wholly upon the wooden or lower sash, the cords of which are completely concealed; and this is the form which, at my suggestion, is to be used in the New Jersey Hospital. If the screens are got up with good taste, complete security may be obtained, and the general effect be perfectly good.

When, in order to give a proper architectural effect, to a centre building for example, the windows are very large, they may be very neatly secured, by using inside shutters, the upper half being permanently closed, and on the outside of the lower half, fastening an ornamental screen of either wrought or cast iron. Windows of this kind in the Pennsylvania Hospital for the Insane are three feet ten inches by nine feet ten inches, with glass thirteen by twenty-seven inches, and cast iron has been used with good effect. The light in the rooms is ample—really giving the large parlours, thirty-six by twenty feet, with ceilings nearly nineteen feet high, a more comfortable air than with the glare generally present before this arrangement of shutters was adopted. This plan, of course, admits of glass of any size that is desired, and all the sash may be of wood.

Windows in the patients' rooms are apt to be made too small, and to be placed too high from the floor, either to look well or to be pleasant to those who are inside of the building.

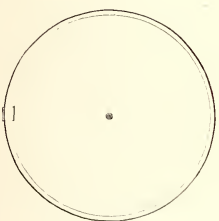
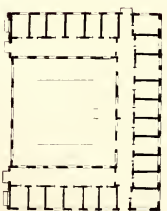
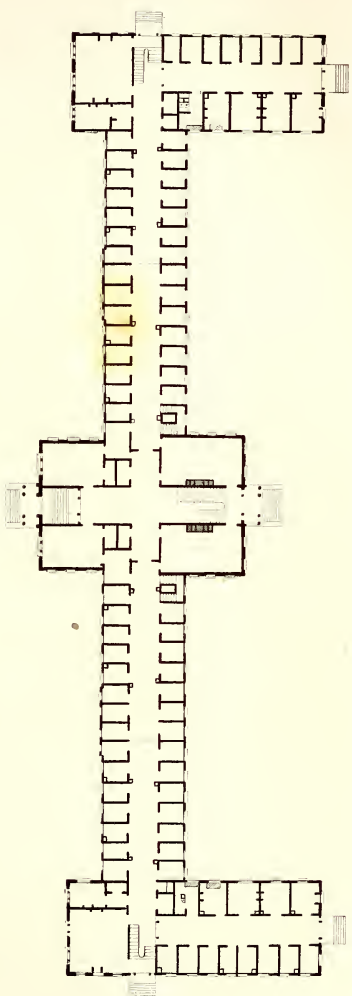
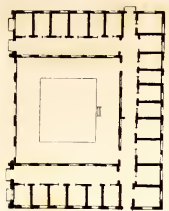
Where iron sash is used, it will be found very convenient in glazing, particularly in the upper stories, if the putty is placed on the inside instead of the outside of the window; glass will frequently be broken, and to replace it from the outside is often a matter of no little difficulty.

No inside protection at all is required to most of the windows. In each ward, however, it will be found convenient to have one or two, with a light wire netting stretched over a properly made frame, which should be

hinged and secured by a spring lock. In the lower wards, more of these may be necessary, and a few may have a close strong shutter, either hung like the former, or made to slide upwards, or downwards, or sideways, as may be most convenient. In the lowest ward may be a few very strong rooms in which the external window is small, admitting only a moderate amount of light and air—while internally provision is made for inspecting the condition of the patient, and ample ventilating arrangements specially provided.

DETACHED BUILDINGS.—The best provision that can be made for every class of patients, that is particularly annoying to those about them, whether from great noise, filthy habits, or from exerting a pernicious moral influence of other kinds, is in detached buildings, at a short distance from the main structure, with which, as a matter of convenience, they may be connected by means of a covered way. These buildings should not be at so great a distance as to make any difficulty in supervision, which is required for these classes more directly and constantly than for all others—and care should be taken in locating them, that their position is such as to derive every possible advantage from a slight removal. Such buildings should be of one story, and if erected on three sides of a hollow square, with an open pallisade in front, will be found very convenient, as giving great advantages for the care and treatment of at least two distinct classes of troublesome patients. The inner part should be made as cheerful as possible, the corridors with an abundance of windows being on that side, and chambers on the outer side only. In the arrangement of these rooms, several should be provided shut out from all sources of excitement from without, and with easy supervision from within. The enclosed space should be paved, and be constantly accessible to the patients.

The Pennsylvania Hospital for the Insane was without any such provision when first opened, but its want was so sensibly felt, and so obvious to every one, that, at my suggestion, the Board of Managers directed the present lodges to be put up during the year 1841. Their general plan is that suggested above, and their form and position will be understood by reference to the accompanying ground-plan of that institution. It will be observed that they project from the main front, which is owing to the other side of the principal structure being most public, and the ordinary side of approach. In most cases, they would be placed on the rear—and always on that side which is most private. Each of these affords accommodations for eighteen patients and three attendants, one of whom is always present; has two distinct classes in them; a dining hall, bath-room, water-closet, &c.; as marked on the plan they are thirty-one feet, north and south of the main building, but additions now being made, will bring them in contact with it. Their rear is only a few feet in advance of the front of the principal structure. They have now been regularly in use during nearly



Scale 90 feet to an Inch

PLAN OF THE PRINCIPAL STORY
Pennsylvania Hospital for the Insane

five years, are always full, and their importance to the comfort, quiet, and usefulness of the establishment, cannot be too highly estimated. On this point there is no difference of opinion among all who have had opportunities of becoming familiar with them; and experience has clearly demonstrated that the objections that by some were thought likely to arise, do not exist in practice. To prevent misinterpretation, it may not be amiss to remark, that in my estimation a small structure, for only one or two patients at a great distance, or without an attendant always present, should never be tolerated in connection with any establishment for the insane. The location of the lodges of the Pennsylvania Hospital for the Insane, makes them just as easy of access to the officers and others, as any position where such patients would be placed in a main structure, and the annoyance of that proximity is so little, as not to compare with its great advantages. It is not to be supposed that any spot can be selected whence some noise may not be occasionally heard, but it is much better to have this, than to incur the risks that would certainly attend a position where it would always be prevented from reaching the main building.

Commonly, two or three patients excite, if they do not make most of the noise and disturbance, even among the noisy class, and it is often desirable that rooms for this number, of each sex, should be provided, in connection with the lowest ward, or with one part of a detached building, so arranged, upon a short lateral passage, for example, that they may be still more effectually separated. One great advantage of detached buildings, properly arranged, in our experience has been, that permanent seclusion of the insane, with its many serious evils, is almost entirely obviated.

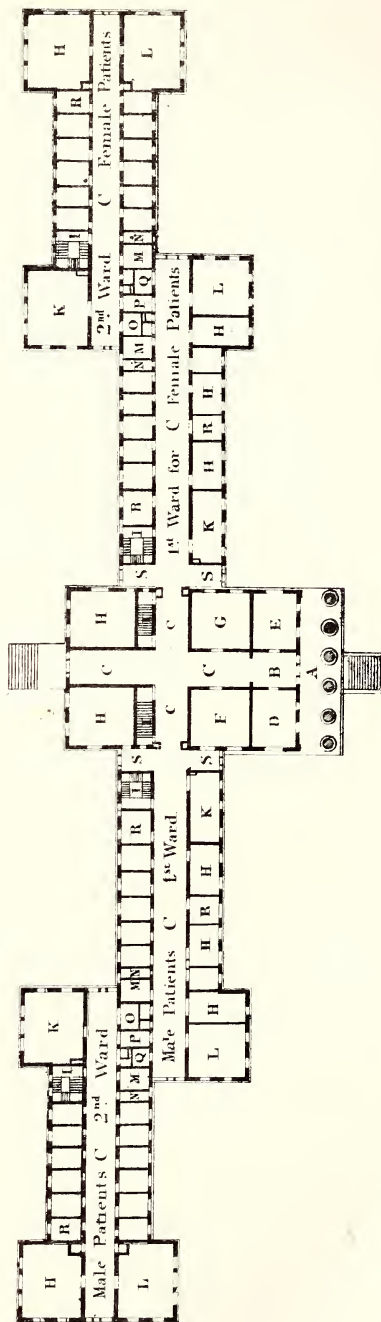
FIXTURES AND INTERNAL ARRANGEMENTS.—One general principle should be adopted in providing these, as indeed in most other provisions for the insane—they should be as nearly like what would be desirable for the sane, as is compatible with their treatment, and furnishes a reasonable degree of security. Security must be obtained—but, it is all important that it be with the least possible degree of restraint, either in reality or in appearance. In the wards for the better classes, therefore, the furniture may be good, and varied according to the character of the institution and the patients who are received into it. In the lower wards, where violence is more common—everything should be stronger—but it should be strength without anything offensive in the manner of obtaining it. Locks and bolts, when required, should be as much as possible out of sight, and move without noise; the best bath-tubs are made of cast iron, and these are easily secured to the floor; fixed marble basins are capital substitutes for those that might be improperly used; towels and their rollers, may be prevented from being moved, and so with nearly everything required for comfort; a little care and ingenuity will enable even the worst class of patients to be surrounded with them.

Fixtures and contrivances that have an unusual, or disagreeable, or prison-like appearance, are as far as possible to be banished from the wards of a hospital for the insane. Some of them may, in rare cases, really be useful, or seem to be; but it is far better occasionally to suffer some inconvenience from the want of them, than to risk the bad moral influence which their presence is likely to exert, not only on the patients, but surely, although almost imperceptibly, on those who have the care of them. It is vastly more to the interests of the insane, that those who have charge of them should use their ingenuity in devising means for avoiding contrivances and fixtures, than in originating them.

PATIENTS' YARDS.—Small yards, as airing courts, for the different classes of patients are not desirable. When patients go out to walk, as very nearly all should do regularly, it should be into the open fields, and their exercise should be much more active, and continued for a longer period than it is likely to be in the small spots, often left for the purpose in immediate proximity to an institution. Patients who cannot or will not walk, would probably spend most of their time lying on the ground, and these will be found much better off, more comfortable and neater in their appearance, by being in large airy corridors and parlours. If any yards are used, they may be few in number,—should be of large size,—well shaded with trees, and have a good dry pavement around them. They will then be occasionally used with advantage, by some who desire greater privacy than they could otherwise obtain, and be of service in weather when the fields are too wet for comfortable walking. Dry or at least paved walks for wet weather are always desirable.

PERMANENT ENCLOSURES.—Many advantages result from the pleasure-grounds of a hospital being permanently enclosed by a wall of sufficient elevation to prevent persons from without intruding upon its privacy—giving security to many of the improvements, and at the same time keeping a large number of patients from wandering from the institution. High walls, however, around small enclosures, and in full view from the building, are worse than none. The grounds, if thus enclosed, should always be large, and the wall so built, as in a large part of its extent to be completely out of sight from the hospital. Natural facilities for doing this are often found, and where they are not, it is easy in most situations to have a sunk wall so arranged as to be perfectly effectual, and not be an objectionable feature.

At the Pennsylvania Hospital for the Insane, the pleasure-grounds contain more than forty-one acres, and are surrounded by a wall averaging ten and a half feet in height. It is more than a mile in extent, and of all this, but a very small portion is seen from the building. No one speaks of it as a prison enclosure; and its advantages in protecting the institution from



South East Front

First Story

HOSPITAL FOR THE INSANE,

TRENTON, NEW JERSEY.

Lith of Sinclair, Philad^a

SCALE. 70 Feet to an Inch

J. Notman, Architect.

intrusion from without, (which is always the great value of a wall,) enlarging the liberty of a majority of the patients, and doing away with the disadvantages which result from proximity to a large city, are so obvious to all who have seen much of it, that no portion of the expenditures are looked upon with greater satisfaction.

Most of the views contained in the present essay were given to the commissioners of New Jersey, when consulting me relative to the details of an institution for that state, which should combine economy in the cost of first construction and subsequent management—ease of supervision, perfect classification of its patients, and all the requirements for their efficient treatment. The general plan and the form of building which I suggested were subsequently adopted, and will be found embraced in the designs by John Notman, Esq., of Philadelphia, the accomplished architect of the hospital, and who is superintending its erection.

The accompanying plate,* showing the general plan and form of that building on the ground, is introduced here, as illustrating many of the arrangements referred to in the preceding pages, and as a specimen of a good form for a state institution.

The plan is that of the first principal story—the basement below it being elevated three steps from the general ground level. The height, including the basement, is three stories, except the centre and projecting pavilions terminating the first range of wings on both sides, which are four stories. The cellars are under the whole. The basement story in the centre building contains a reception room for patients, officers and domestics' dining-rooms, store-rooms, kitchen and scullery. In the first range of wings on either side are work-rooms for male and female patients, domestics' lodging-rooms, bake-house, washing, ironing and drying rooms. In the second range of wings are respectively the male and female violent patients' wards, at the extreme end of which are four rooms, on a lateral passage. Under the portico A, is a carriage way, to set down patients or others in severe weather.

In the first story, A is the portico; B, the entrance hall; C, the halls of centre and corridors of wards; D, the house parlour; E, general business room; F, room for visitors to patients; G, office of physician and library; H, are associated dormitories of different sizes, from two to eight beds, and intended to have an attendant either in or immediately adjoining them; I, stairs; K, dining-rooms; L, parlours; M, bath-rooms; N, water-closets; O, clothes-room, with funnel for foul clothes, &c., adjoining; P, passages between the wards; R, attendants' rooms; S, spaces, with large windows from the floor to the ceiling, for light and air. The others are single rooms for patients. In the second story of the wards the arrangements

* From Pennsylvania Journal of Prison Discipline and Philanthropy, from which also the description is abridged.

are similar. The front rooms of the centre are for the physician's family, and one for the assistant physician. The back part will be in one room for a chapel, lecture or general meeting room of the patients.

In the third story of the centre will be rooms for other officers, &c. In the third story of the pavilions may be infirmaries or associated dormitories. The single rooms are eight by ten feet and eleven high, the corridors are twelve feet wide, and the windows at the ends of them are of the entire width of that space. The wards will average twenty patients each, or two hundred for the whole building, with the proper officers and assistants.

"For warming the building it is arranged that the space in the cellar enclosed by the walls of the corridors in the whole length of the building, shall be a chamber, in which the air admitted at sundry points from the exterior, will be heated moderately from the surface of pipes containing hot water or steam circulated through them, and will be conducted in flues in the walls of the corridors, to all the rooms in each ward, and to the corridors at many points. For this purpose and for ventilation, there will be built a series of flues in all the extent of the walls of the corridors. The arrangements for ventilation are as follows:—A large flue or air-trunk is constructed at each end of the corridors, with partitions, so that each corridor will have an ascending or descending current, as the season and state of the atmosphere may demand. These air-trunks will terminate below in an air drain, which will again terminate at the necessary fire places of the establishment, or at points distant from those places, at fires provided for the purpose of burning the impure air. Above, the air-trunks will terminate in a shaft or chamber which forms an ornamental erection over the roofs of the pavilions central and extreme, and the impure air will be burned off at these points if forced action be necessary. Flues of ventilation from every room are connected with the main trunks; the regulation of the supply of fresh warm air, and the valves for ventilation are so proportioned that currents of air will be entirely avoided. By these arrangements it will be in the power of the managers to cool the air in the chambers, and distribute it over the house in summer. A supply of water will come from the reservoirs in the dome of the centre building.

"The exterior will be in the simplest style of architecture. A Tuscan portico of six columns marks the centre and entrance. A boldly projecting cornice of the same style will be continued around the whole, yet its architectural effect will be good from its great size, the well-arranged advancing and receding disposition of the wings, the variety in height and the fine proportions of the several masses of building. The whole length is four hundred and eighty feet."

To render this establishment complete, however, would still require, in my estimation, the erection of detached buildings for about fifteen of the most noisy, violent and filthy of each sex, and this will be the proper

mode of extension when the wants of the state require additional buildings. The proper location of these one-storied buildings, on three sides of a hollow square, would be a short distance from each extremity of the present hospital, and slightly in its rear. The open sides of them should be in the rear, and the front masked by clumps of evergreen trees, so as not in any way to interfere with the general effect and good appearance of the main structure.

To meet my views, therefore, of a complete state hospital, would be to adopt the general principles and form of the New Jersey institution, and to connect with it the lodges or detached buildings of the Pennsylvania Hospital for the Insane, with such improvements in detail, as experience has suggested.

The exterior of the New Jersey Hospital will be appropriate, and the whole will add to the high reputation of its architect. It is now nearly under roof, and it is believed that it will be completed in another year, for less than one hundred thousand dollars, which seems to be about the lowest sum for which a suitable structure for two hundred patients can be properly erected and furnished. Should the same liberal and enlightened views attend its progress, organization and maintenance, which have marked its commencement, it cannot fail to be highly creditable to New Jersey—a bountiful dispenser of the highest blessings to her afflicted, and an institution in which all her citizens may indulge an honest pride.

The marked advances which are now being made in the treatment of the insane, and in the architecture of hospitals for their use, must be truly gratifying to every philanthropist, and although there is still ample room for improvement, the several institutions now in progress of erection bid fair to be far superior to most of those that have preceded them. Public opinion, it is true, in most parts of our country, has not yet arrived at the true standard for fixing the degree of excellence which should belong to every institution, whether state, corporate, or private; a desire to have them cheaply built, cheaply furnished, and cheaply managed, without a proper regard to excellence, is still too prevalent. These establishments, it is to be remembered, are generally to receive all classes. The best and most useful members of the community may require their aid as much and as often as the most wretched children of misfortune;—and even if all their inmates were the very poorest, humanity and good economy would equally counsel every provision that offered an additional chance for their restoration.

It will certainly be found by experience, in all these institutions, that true economy consists in avoiding waste of every kind, but at the same time using liberally every means which promises to promote the great objects for which they were constructed; and that hospitals which combine most excellencies with fewest defects, that are organized upon the most

liberal scale, and offer most advantages to their patients, will be the cheapest in the end, be best appreciated by the afflicted and their friends, and ultimately give most satisfaction to any enlightened community.

PHILADELPHIA, Nov., 1846.

ART. IV.—*Some Observations on the Epidemic Intermittent and Remittent Fever of the Autumn of 1846.* By ALEXANDER WILCOCKS, M. D., Fellow of the Philadelphia College of Physicians; one of the Physicians to the Philadelphia Dispensary; late Physician to the Orphan's Shelter.

THE unusual prevalence of intermittent and remittent fevers in the city, as well as in the neighbourhood of Philadelphia, has already drawn to this subject the attention of many of our physicians.

The field for the observations and deductions, which are the subject of this communication, was afforded me, in the southwestern district of the Philadelphia Dispensary, which embraces that portion of the city proper, to the south of Chestnut Street, and to the west of Broad Street.

Since the 1st of July, I have had under my charge, one hundred and seventy-one cases of this disease, of which there occurred in the month of July, 10 cases; August, 11; September, 99; October, 51. Total 171.

As it may be interesting to know, what part of the district has suffered the most, I have made from my register two tables, showing the relation which the disease bears to locality, first from north to south, and again from east to west.

TABLE A.

There were between	Chestnut Street, and	Walnut Street,	22 cases.
"	"	Walnut	"
"	"	Spruce	"
"	"	Pine	"
"	"	Lombard	"
"	"	Cedar	"
Total			171

TABLE B.

There were between	Broad Street, and	Schuylkill 8th Street,	2 cases.
"	"	Schuylkill 8th Street, and	Schuylkill 7th Street,
"	"	"	7th
"	"	"	6th
"	"	"	5th
"	"	"	4th
"	"	"	3d
"	"	"	2d
"	"	"	Front
"	"	"	Front
"	"	Ashton Street and	Beech Street
"	"	Beech	"
"	"	Willow	"
"	"	the Schuylkill	
Total			171

I have noticed in several parts of the district, that the liability to the disease was much influenced by the position of a house with reference to the prevailing winds.

Thus, Cedar Street, on the north side, is compactly built from Schuylkill Second to Schuylkill Fifth Street. These houses face an open country covered with farms, and brick-yards, some of the latter being in active operation, and others exhausted, and partially filled with water.

In the three squares, to which I have alluded on Cedar Street, I have treated twenty-three cases of fever, whereas, in the three streets to the north of Cedar Street, viz., Harmstad Street, McDuffie Street, and Lombard Street, which are within the same limits, built with nearly equal compactness, I have treated only nine cases.

It may be safely assumed, that the number of inhabitants in Cedar Street, when compared with that in the neighbouring streets, is only as one to three. This being the case, how are we to account for the great disproportion in the healthfulness of the different streets?

With the view of throwing light upon this subject, I applied to the superintendent of the factories in McDuffie Street, to ascertain whether he had kept any record of those of his operatives, who had suffered from the disease, and whether he had remarked any greater amount of sickness in one street than in another. But I was unable either from this, or from any other application to the inhabitants of the district, to obtain any satisfactory information.

This is a matter in which it is difficult to arrive at the truth, and it is not probable that it can be discovered in the practice of any one man. It is to be hoped that other physicians who have practised in this district during the present fall, will offer their experience, that the conclusions which I shall presently draw, may be either supported or overthrown.

But it is not only between Cedar and the neighbouring streets that I have noticed this disparity; it has occurred in various parts of the district. There is a row of houses on the north side of Pine Street, between Beech and Willow, which have an exposure very similar to those in Cedar Street. The number of inhabitants in these may be put down at one-third of those in the remainder of the block towards Spruce Street.

Yet in the row on Pine Street, I have treated fourteen cases of the fever, and in the contiguous streets to the north, only three cases.

In Murray Street, the number of houses on each side of the way, is about the same; those on the south side have open lots behind them for nearly three squares, consequently they are fully exposed to the action of the south winds. The houses on the north side are screened from the action of this wind, by those on the south side.

I have treated sixteen patients with fever on the south side, and only two on the north. The two cases were in the two westernmost houses;

those are, of course, the two which are most exposed to the southwest winds.

In Cooper Street, I attended four cases, and these in the westernmost house, the rest of them being more protected from the S. W. wind, by the buildings in Locust street.

The houses in the western part of Cedar and Lombard Streets, have not suffered much, probably owing to the protective influence of the high wall and other buildings of the U. S. Naval Asylum.

There is one large house on the north side of Cedar street, directly opposite the Gray's ferry road, which was in the month of September, tenanted by three families, consisting of fifteen individuals; of these, ten had the fever. No house within my knowledge has suffered so severely as this one, and its position is most peculiar.

On the west side of the Gray's ferry road, and adjoining Cedar Street, is the Naval Asylum, the front of which faces south-east; it has already been mentioned that the houses to the north of the asylum, seemed to receive from it a certain protection. It would not be irrational to suppose that this long line of government buildings, might act as a channel to the south-west wind, and thus have a really injurious influence upon this ill fated-house.

From these observations, I think it is fair to conclude, that if two rows of houses be separated by an east and west street, and so placed as not to be influenced by any other buildings, the inhabitants of the south side of the street would be at least ten times as liable to intermittent and remittent fevers, as those on the north side.

It does not appear that the protection which a frontier row of buildings affords, extends to any great distance, as is shown by the prevalence of fever in Pine and Murray streets, which have several open squares to the southward.

These remarks are intended to apply to the neighbourhood which has been the subject of our investigations, and not to one which is influenced by geographical and meteorological circumstances, which do not obtain in Philadelphia.

The idea of this kind of protection is no novelty; my object is to show by numbers, what is its value.

Upon examining my tables of locality, great variation will be observed in the number of cases in different streets. Let us see whether the rules which I have offered, can explain the cause of this.

First, we find in Table A, seventy-four cases between Lombard and Cedar Streets.

As there are scarcely any houses on the south side of Cedar Street, the buildings on the north side have no barrier to the poisoned south wind.

Secondly, we find only two cases between Lombard and Pine Streets. Is it because there are few houses here? This is not the fact. What

then is the cause of the protection? We find it in the dense rows of buildings between Lombard and Cedar Streets.

There were twenty-six cases between Pine and Spruce Streets; of these fourteen were in one square, and have been already commented upon. Of the forty-seven cases between Spruce and Walnut, twenty were in Murray Street, and have been noticed.

There is less variation in Table B. The greatest amount of fever occurred between Schuylkill Second and Schuylkill Third Sts. We do not find the population very dense here; but any one acquainted with the neighbourhood, must have observed the open lots between Spruce and Lombard Sts., by which the protection which the row of houses in Cedar St. gives to those in McDuffie and Lombard Sts., is lost for those in Murray St. There are thus between Schuylkill Second and Schuylkill Third Sts., two frontier rows of houses.

Admitting that my conclusions are just, let us see how they will bear upon the different theories of the cause of these fevers.

Of these, there are principally two. 1st. The miasmatic. 2d. That of the alternation of heat and cold.

If the unhealthfulness of a neighbourhood depend upon a poison *constantly* floating in the air, no barrier short of a hermetic seal could exclude it; hence, a row of houses, a wall, or a forest could no more give protection to the houses behind them, than a breakwater could affect the height of the tide. But, if the air be only charged with the poison *at intervals*, it is easy to conceive that the pure air may not be driven from the streets, and interior of the houses, until the poison may have been dissipated or condensed.

There is no proof that I am aware of, that contiguous and parallel streets vary in their alternations of heat and cold. My observations would then rather throw doubt upon, than give colour to this theory.

The theory of microscopic fungi, which has lately been offered to account for these fevers, is more ingenious than any which has preceded it, and is certainly as plausible.

In its action, it is so closely allied to the miasmatic, that the remarks made with reference to that, will apply to this.

In the treatment of these fevers, the sulphate of quinia has of course been the main stay. I, however, used the ferrocyanuret of iron, as also the solution of arsenite of potash in a few cases, but with indifferent success.

Of the one hundred and seventy-one cases, which I have treated, all have recovered, and my experience has taught me, that no other medicine is required to stop the paroxysm, and to prevent the return of the disease, than the sulphate of quinia.

In the administration of this substance, I have been led to depart from the rules generally laid down for its use. Most treatises upon cinchona

and its preparations, abound in cautions against its exhibition during the paroxysm of a fever. To this the writings of Bretonneau, and most modern treatises, are exceptions.

His precept was, "Administrez le quinquina le plus loin possible de l'accès à venir," and his practice was, to give it in the middle of a paroxysm as soon as he ascertained the pernicious character of the fever. He was not deterred from this by the fear of augmenting the intensity of the attack, for his experience taught him that this drug did not show its effect for several hours after its exhibition, consequently at the time when the remission was about to occur. (Trousseau and Pidoux, *Thérapeutique*.)

About the middle of September, I found myself in charge of upwards of fifty cases of fever. These were scattered over the whole square mile of my district, which rendered it impossible to bestow upon them that personal watchfulness which I desired. Neither could I rely upon the assistants for noticing the various phases of the disease, especially the much desired remission.

Consequently, the course which I pursued was rather forced upon me, than adopted from choice. This was *to give the sulphate of quinia at all stages of the disease*.

The quantity of the medicine which I gave in this way, was neither a drachm, (which has lately been given not only with impunity, but with vaunted success,) nor even a scruple, but a grain repeated every hour until twenty were taken.

The form of administration was that of the officinal pill, which I found more easily retained, and less objectionable to the taste than a solution.

From an impression that the sulphate of quinia is apt to lose its effect, if the bowels are in a loosened state, I have prescribed it under circumstances, when a cathartic seemed to be indicated, preferring to put a stop to the principal disease, and attend to the minor symptoms afterwards. To this practice, I have rigidly adhered throughout the season, and with almost uniformly happy results.

No case has up to this time resisted the sulphate of quinia. I have seldom seen a paroxysm of intermittent fever to occur, after twenty grains of this medicine have been taken in the way that I have described. Nor have I seen a remittent fever last long after its administration.

I have used the medicine in 168 cases; and since the middle of September, I have given it at all periods of the paroxysm and apyrexia. In only two cases have I noticed any accident, which might be attributed either to the sulphate of quinia, or to my mode of using it.

After attesting in mass to the successful operation of the medicine in 166 cases, I shall speak individually of the exceptions.

1st. Mary Gregg, æt. 27. West Lombard St., No. 6. This woman, after taking twelve grains of the sulphate of quinia, with intervals of an

hour between each grain, lost her hearing, and did not entirely recover it for fourteen days.

This is one of the cases in which I had previously tried the ferrocyanuret of iron. The sulphate of quinia was taken partly during the fever and partly during the intermission. She is now perfectly well.

2d. Martin Gregg, æt. 24. West Cedar Street, No. 10. I first saw this man Oct. 2d, at noon. He had had a fever for 48 hours; he complained of headache, and was constipated. He had not noticed a chill before the fever. Ordered twenty pills of the sulphate of quinia, one each hour.

3d. Symptoms are the same; pills are nearly all taken. Ordered pil. hydrargyri gr. vj, to be followed by mag. sulphatis ʒj.

4th. Fever and headache had disappeared; patient was in a sweat. Ordered pil. quinia sulphatis No. xx., one each hour. Thus ended this attack. Patient was discharged Oct. 9th.

The disease returned Oct. 13th, when he had a chill. The sulphate of quinia was used as before, but the paroxysms continued irregularly for some days.

24th. Two o'clock P. M. Much fever and headache. Ordered pil. quinia sulphatis, one each hour; also, applications of cold pump water to the head. He took nine pills that evening, and his headache left him at 1 o'clock, A. M., Oct. 25th. I saw him at noon that day. No fever, no headache; he had taken no pills since the evening before. Ordered the pills to be continued.

The headache came on shortly after I left him; he had a convulsion at 7 o'clock P. M. I saw him again at 10 o'clock P. M. He had much fever and headache, but no disorder of the intellect. Ordered the sulphate of quinia to be discontinued, and cold applications to be made to the head. I also gave him some decoction of senna (the only cathartic in the house), enough to move his bowels, after which the headache left him, and has never returned.

30th. He is now up, but not sufficiently strong to pursue his usual avocation (weaving). He takes daily, three grains of the sulphate of quinia, as an anti-periodic and tonic.

I have been thus particular in the details of this case, that every one may judge of the connection between the sulphate of quinia and the convulsion. There are many who will say that it was undoubtedly the sole cause. Others again may think, that a close examination of the order of events will lead to a contrary opinion.

When cinchona in substance was used in the treatment of our autumnal fevers, much difficulty arose from the quantity of woody matter which it was necessary to swallow.

This difficulty has been dispelled by the light of modern chemistry. No one who is now called to treat these fevers, can fail to be struck with the

admirable qualities of the sulphate of quinia. Authors seem to exhaust themselves in finding language of sufficient force to describe its virtues.

It has been called "*the remedy*," "*the specific*," "*the only specific*," &c. &c. But all these epithets fall far short of the reality. It is the most valuable medicine we possess, and its discoverers, Messrs. Pelletier and Caventou are deserving of a foremost place among the benefactors of mankind.

PHILADELPHIA, *November 14th*, 1846.

ART. V.—*Cases of Acute Affection of the Spinal Marrow, with Dissections.* By J. B. S. JACKSON, M. D. (Read before the Boston Society for Medical Improvement, Nov. 2d, 1846.)

IN one of the cases which I am about to report, there was an extensive and complete disorganization of the spinal marrow. In the others, three in number, it may be questioned whether there really was any structural change, though I think that there was a certain degree of softening in at least two of them. Mr. Stanley has published a series of cases of paraplegia, in connection with inflammation of the kidneys (*Med. Chir. Trans.*, vol. xviii. p. 260), and he refers to one of his correspondents, as having observed a temporary paraplegia where the uterus was disordered; in one of the following cases, there was found Bright's disease of the kidneys, and in another, the uterus was extensively diseased. It may be mentioned, as a remarkable coincidence that all of these cases should have occurred within two months, and three of them within the short period of four weeks; a similar coincidence, however, I have several times met with in other rare cases.

CASE I.—*Disorganization of the spinal marrow; inflammation between the theca and spine; and in the muscles of the back a large abscess. Paralysis twenty days before death.*—The patient was a labouring man, thirty-seven years of age, but apparently much older; figure tall, and rather lank; complexion dark; general health sufficiently good. About the first of July, while working on some rafts in the water, he fell and struck his left side, not far from the region of the heart. From this time he did no work, except for one day; had some diarrhœa for a time, but no other local trouble, and was not confined to the house. On Monday, August 10th, he first felt a slight pain in the back; this gradually increased, and on Wednesday evening, when I first saw him, he was in great distress; the pain then centered about the eighth or tenth dorsal vertebra, extending five or six inches up and down the spine, across the back nearly to the sides, and particularly

through to the epigastrium; this pain was much increased by motion, and the breathing was greatly oppressed if he attempted to lie down; there was also a feeling of stiffness and soreness. The pulse was 90, full and hard, and the skin was dry and warm, as it had been since the day before. He was bled from the arm with some relief; had a sinapism to the back, and took opiates; the blood was buffed. On Thursday, he was to have been seen by another physician, but by some misunderstanding was not visited on that day.

On Friday morning, Aug. 14th, he first complained of numbness of the lower extremities, and before night there was entire loss of the power of motion, with an almost perfect insensibility to above the umbilicus; from this time to his death there was no voluntary power, though for the first few days involuntary movements were excited by irritating the soles of the feet; the insensibility also remained, and soon became perfect. On the following Wednesday the countenance was sunken; some loss of the power of motion and sensation in the upper extremities had come on since the day before, and the muscles on the left side of the face were more contracted than those on the opposite side, though the mouth was not drawn; the affection of the upper extremities afterwards increased, though he retained till the last some feeling and power of motion; the face continued to be very slightly affected. On being questioned, he often reported pain in the spine, but could not localize it on account of the numbness; he also spoke sometimes of pain or distress in the back of the head and in the arms; was never able to turn his head, and suffered much when it was turned by another person; no pain in lower extremities; no spasms. The catheter was used daily, and the quantity of urine was very large, so that the bladder was always felt distended to the umbilicus. On the 24th, a change was first perceived, and from that time the urine was very bloody, strongly ammoniacal, and deposited an abundant sediment. Dejections involuntary throughout. Dyspnœa and dysphagia often reported, and sometimes a slight delirium, but these symptoms were never observed at visit. A large slough formed on the sacrum. He gradually sank, and died on the 3d of September.

On dissection, there was found an abscess on each side of the spine, extending throughout the dorsal region, occupying the situation of the muscles, and containing altogether a pint or more of thick greenish pus; there was no external fulness, and the integuments over this part were perfectly healthy. The wings of the vertebræ having been removed from the second cervical inclusive, there was found a large effusion of pus and lymph, external to the theca, extending throughout the entire length of the spine, and terminating at about the second or third cervical vertebra. The arachnoid and pia mater were perfectly healthy, except for an ecchymosed appearance of this last upon the anterior portion of the spinal marrow, about two inches in extent, and rather above the middle of the back.

¶The spinal marrow having been removed from the second cervical vertebra, appeared enlarged, softened, and in some parts discolored, except at the upper extremity, where it seemed healthy. On incision, it was found softened, almost to diffuence, and of a dusky or pale brownish colour, but not uniformly so, there being no trace of division into columns; the disorganization was complete from the lower extremity of the spinal marrow to the upper part of the back, being perhaps most marked about midway; in the lower part of the neck the softening was much less, and for an inch or more below where it was cut off, the consistence and colour were about natural. Where the diseased portion was lost in the healthy, the softening was observed after the discoloration had entirely ceased, and, if there was any difference, it was rather more marked in the posterior than in the anterior portion. There was nowhere any increased vascularity, nor any trace of effused blood or pus.

The lungs were healthy, but each pleural cavity contained about a pint of serum, and posteriorly an abundance of recent lymph. The bladder contained about a pint and a half of urine as above described, and some clear mucus, but no pus nor free blood. The inner surface was everywhere covered with a thin, whitish, earthy crust, except posteriorly, where was a defined spot about one and a half inches in diameter, of a dark ash colour, polished, and perfectly free from the deposit, not softened, nor otherwise apparently gangrenous. On removing the crust, the sub-mucous cellular tissue was found infiltrated with pus, though nowhere to any great amount. The ureters were not remarkable, but there was some increased vascularity of the kidneys, and in one of them a deposit of recent lymph. The brain and its membranes were healthy.

CASE II.—*Softening of the spinal marrow—fatal on the fifth day.*—

Mr. C., a grocer, 24 years of age, was generally healthy, and assigned no cause for his disease except that he had been working harder than usual. On Friday, July 24th, he first felt a weakness in his knees; this increased, so that on Sunday he had lost all power of motion in the lower extremities, and sent for his physician, Dr. M. S. Perry. On Monday, the upper extremities became affected, and before death were almost completely powerless. Sensibility in the affected parts much diminished, but not entirely lost. On Sunday, there was some difficulty of breathing and deglutition, and towards the last these were prominent symptoms. Complained of distress at epigastrium, but had no pain in limbs nor along the spine, even on motion; no spasms. Sphincters not affected; no cerebral symptoms till just before death. Skin sufficiently well, except for coldness of the extremities, which was relieved by a mustard foot-bath; pulse generally about 80, but rose to 160 towards the last. Gradually sank, and died on Tuesday night at 1 A. M.

The spinal marrow was examined throughout, and about the middle of

the back, there was found to the extent of three or four inches, a decided though slight degree of softening, with perhaps a faint yellowish tinge, the outline of the different parts being perfectly preserved; otherwise, the organ had its usual consistence, and there was nowhere the least appearance of inflammation. The membranes were not remarkable, except for a degree of redness, and this was perhaps a cadaveric change. The brain and membranes were healthy, as were also the organs of the thorax and abdomen.

CASE III.—*Paralysis, with cerebral symptoms, occurring in a very nervous subject, and fatal on the sixth day. Bright's disease of the kidneys, found on dissection, with some softening of the spinal marrow.*—Miss S., æt. 20, a patient of Dr. Homans, was quite healthy till she was twelve years of age; but from that time had suffered much from nervous affections, with a variety of other complaints; the catamenia were very scanty and painful, and often attended with delirium; but there never was any paralysis, nor, according to the statement of her mother, had there been, in connection with the renal disease, any swelling of the feet. Within two weeks before the fatal attack, she had taken three or four shower-baths, and had not been free from pain since.

On Thursday, Sept. 24, she came down from the country, hoping that the change might improve her health; after a ride of twenty-six miles in a stage-coach, and seventy-six on the railroad, she arrived in the evening at the house of her aunt in this city. She was then much exhausted, and could with difficulty be got up stairs, saying that "she could not raise her feet." Her feet were much swollen, tense and white, and very cold, but soon became warm and the swelling subsided. In the night she had two dejections from medicine, and passed urine freely, after a retention for two days; she vomited, also, through the night, but not afterwards. After her arrival she moved the lower extremities but very little, and after Friday none at all, except shortly before death, when her aunt observed her once draw up the shoulders slightly, and slightly raise the right leg; also on Tuesday evening, involuntary motion was excited by irritating the soles of the feet. On Friday night she complained of "a strange feeling in the arms, as if they were coming off," from which time they were moved very little, and for the last two or three days none at all: she seemed capable of moving only the head, and that from side to side. There was also a loss of sensibility, which, in the upper extremities, was first complained of on Friday night, and on Tuesday evening was such that no notice was taken when the feet were pinched with all possible force. General pains were complained of, but the spine was not particularly mentioned, and after Friday night she seemed to feel a great degree of soreness on being moved. On Friday the mind began to wander, and from Saturday night till death, which occurred on the following Wednesday, at two,

A. M., there was a constant and noisy delirium, except for a momentary doze, when under the influence of opiates during the two first days. There was much dyspnœa throughout, and on the last day dysphagia, so that she choked on attempting to swallow liquids, which until that time she had taken freely. After Thursday night the urine was involuntary, and on Sunday there were involuntary discharges from the bowels after a cathartic. The skin was at first cold, but afterwards became warm and moist, and at times there was a profuse perspiration; the head was hot, and the tongue very dry; pulse at first about 100, but afterwards rose to 120.

On dissection, the spinal marrow having been removed throughout its entire length, was found to be much softer in the dorsal region than it was above or below, and midway appeared almost like a thick paste; there was, however, no change of colour. In the membranes there was nothing remarkable, except for an effusion of blood within the theca about opposite to the lower cervical vertebra, and there was great reason to suppose that this got in in the course of the dissection. The organs of the abdomen, thorax, and head, were healthy, except for the kidneys, which were affected with Bright's disease in an advanced degree.

CASE IV.—*Corroding ulcer of the uterus. Paraplegia ten days before death, with very little if any disease of the spinal marrow.*—Mrs. D., a patient of Dr. S. S. Whitney, of Dedham, was 43 years of age, and a woman of robust health; about the middle of June, the uterine disease commenced, and from this time her sufferings were constant and very severe. There were deep, lancinating pains, extending from the lumbar region into the pelvis, and down the thighs in the course of the sciatic nerve; these pains, which shot through the lower region of the pelvis, were compared to “the pains of ten thousand red hot needles running into the flesh.” There was also slight numbness of the lower extremities from the first, and, at times, during the course of the disease, the sensibility of the whole surface of the body, from below a level with the umbilicus, was extreme.

On the 12th of September, there came on a paralysis of the lower extremities, extending as high as the third or fourth lumbar vertebra, and this continued until death, which occurred on the 20th. The power of motion was not entirely lost, though the loss of sensibility was complete: the patient could always rotate and draw up the limbs, though in a clumsy and unsteady manner, and there was more power in the right than in the left; no affection of the upper extremities, nor of the head. A few days before this attack, the evacuations from the bowels had been free and natural, and the dysuria, from which she had suffered, had entirely ceased; but from this time the patient had no discharge from the bowels, and after the third day the urine was altogether involuntary. A curious fact was ob-

served by the nurse, that the urine, when thrown out from the vessel in the night, emitted a light, or "flashed," as her expression was.

On examination, there was found a slough over the sacrum, and about the lower part of the back, a considerable degree of putrefaction, the muscles of the back being dark and very soft. The spine was opened from the last lumbar vertebra to about the upper dorsal, and the spinal marrow having been removed and carefully examined, it was thought that the gray substance in the centre of the lateral columns was somewhat softened; but the fact was very doubtful; otherwise, this organ and its membranes were perfectly healthy. The head was not examined. The os uteri and cervix were destroyed by deep ulceration, and there was an opening through into the cavity of the bladder, an inch or more in diameter, but without any appearance of malignant deposit. The kidneys were unusually white. Excepting the mamillary processes, and just below the one on the left side, the cellular membrane was of a grayish colour, and somewhat condensed. The other organs of the abdomen and thorax were healthy.

ART. VI.—*Case of Compound Fracture of the Skull, with escape of Cerebral substance, ending in Recovery.* Reported by ROBERT P. HARRIS, M.D., Resident Physician to the Pennsylvania Hospital.

PATRICK McCORMICK, aged 26 years, a native of Ireland, of intemperate habits, was admitted into the Pennsylvania Hospital, as a "Recent Accident," on the 6th day of June, 1846. He was driving a horse-cart in a standing position, and being somewhat unsteady from the effects of drink, was thrown out by the sudden stoppage of his horse at a crossing of the streets. In his fall his head struck the curbstone, producing a compound fracture of the skull, and his body fell upon the pavement of the street, producing a fracture of the right thigh.

Upon his entry into the house, I examined his injuries, and found upon shaving off the hair from the right side of his head, that there was a long incised wound of the scalp, extending in a direction from the top of the ear, to the top of the forehead. This wound was about three inches in length, and communicated with a very extensive fracture, extending in the same direction, but much longer (6 or 7 inches). Upon examining this wound by means of the forefinger, I removed a small portion of brain about the size of a large bean; and I learned from the man's friends, that a much larger quantity was found upon the stone where his head struck in the fall.

Besides the large wound, there was one much smaller, about a quarter

of an inch in length, situated at the top of the forehead above the right eye. This wound communicated with the anterior extremity of the fracture.

The patient, at the time of his entry, was insensible to everything that was going on around him; the pupils of his eyes were contracted, and insensible to changes of light; his pulse was slow and feeble, (60 per minute;) he had entire paralysis of the left arm and leg; and his mouth was drawn to the right side.

Upon a consultation of the attending surgeons, it was thought advisable not to make any attempt to replace the fragments of bone, believing that there would be more danger from doing so, by its stopping the exit for the discharges, than there would be from allowing them to remain in their displaced condition.

The wounds were therefore covered merely with patent lint, and the head surrounded loosely with a bandage. The thigh, which was fractured obliquely about four inches above the knee, was set and placed in Desault's apparatus.

June 7th, (morning.) I found to my surprise upon entering the ward, that the paralysis of the patient had disappeared except in the face; and that his consciousness had returned. So that he was using a fan to keep off the flies from his head, with the arm that had been completely paralyzed the night before. His pulse had increased to 75 beats per minute; and his pupils had become entirely sensible, dilating and contracting naturally. He was able to tell upon inquiry all about his accident, and how it happened.

Afternoon. About 4 o'clock, P. M., the patient showed some signs of delirium. This gradually increased, and continued through the night. It was manifested by talking in a low muttering tone, and using words without any connection. Upon calling him by name in a loud tone of voice, he could be aroused for a short time, so as to answer questions correctly, but immediately relapsed into his previous condition. Directed four cut cups to be applied to the back of his neck.

8th. Symptoms still worse; pulse slow and very feeble; constant delirium; jactitation, and picking of the bed-clothes. His condition continued throughout the day without material change. When the lint was removed in dressing the wounds of the scalp, a large quantity of cerebral matter escaped. Directed a tablespoonful of the following mixture to be taken every two hours, viz.: R.—Liquor potassæ citratis, fʒviij; antimonii et potassæ tart. gr. i. M. Fiat mistura. Allowed barley water as a nutritious drink.

9th. Symptoms worse than yesterday; delirium greatly increased; pupils much contracted and insensible. On account of his delirium it was found necessary to bandage his hands fast to the sides of the bed to prevent him from removing the dressings from his head and thigh. A flax-

seed poultice was substituted for the lint in dressing his head, and as usual a portion of brain escaped upon the removal of the lint. Directed to take hydrarg. chlorid. mit. grs. x, as a purge, and to repeat the cut cups to the back of the neck.

10th. Still delirious; may be aroused so as to give sensible answers to questions, but immediately after relapses into stupor, and snores as if asleep, keeping his eyes shut. Pulse 96; pupils both dilated and partially sensible to light.

At 8 o'clock in the evening he was seized with rigors, after which he had a convulsion; during the night he had four more convulsions.

11th. Had several spasms to-day; has strabismus of right eye; answers questions when aroused; complains of thirst.

12th. Quite sensible to-day, much more so than at any time previous; slept well during the night. Complained of pain in the head, which was very much relieved by removing the bandage and poultice, and allowing the discharge to escape which seemed to have produced some compression of the brain.

13th. Not so sensible as yesterday; still has some headache; became more sensible after removing the dressings; pulse 80. Directed four cut cups to be applied to the back of his neck.

14th. Quite sensible to-day; pulse 96. The discharge from the wounds is diminishing, and has changed its character from that of softened cerebral matter to a thin puriform, yellowish fluid, with small portions of cerebral substance floating in it.

From this date there is nothing in the history of the case worthy of a daily record. The improvements from day to day were but slight, and I shall therefore give merely a record of those days in which there were any important changes.

The fracture of the thigh was very difficult to treat on account of the delirium of the patient; and we were obliged after two weeks to remove the apparatus of Desault, and substitute binders' board splints, so that the patient could lie on his side, to prevent sloughing of the parts over the sacrum, and posterior spinous processes of the ilia, which were becoming red from pressure. This of course entirely prevented any effort for the extension of the limb; it therefore became shortened more than an inch. It was, however, kept very straight, and will still be a very useful limb by the aid of a high-heeled shoe.

28th. Complained very much of pain in the head; had been vomiting several times; and said he could scarcely see any. Upon loosing the bandage from his head he said he felt better, and in about an hour he entirely recovered from its effects.

July 13th. Complained of much headache whenever he attempted to lie down, so that he was not able to sleep, and was forced to sit up in bed.

Directed two cut and four dry cups to the back of his neck, after which he was relieved.

14th. Was attacked with diarrhœa which prevailed in the ward at the time. Directed emplastr. vesicat. four by five to be applied to the abdomen. Infus. krameria oj per diem as a drink, and a diet composed of castillon powder boiled in milk. This complaint lasted a week, after which his diet was increased until he was able to eat meat, &c., as before.

About this time cicatrization of the wounds commenced. The discharge ceased entirely about the 25th of the month.

August 1st. Had another attack of pain in the head, dimness of vision, and sickness of stomach, which was relieved by the application of two cuts and four dry cups to the back of his neck.

The strabismus of the right eye continued longer than any of the other symptoms of paralysis. It was not perceptible after the first of July. The paralysis of the muscles of the face disappeared soon after sensibility of the mind returned. The sight of the right eye, which was at first nearly destroyed, has gradually returned, so that it is now nearly as good as the other.

September 7th. Left the hospital cured; has grown quite fat; and as far as we can judge, is in as full possession of all his mental faculties as he was before the accident. His right eye still becomes dimmed, and his head aches when anything is bound tightly around his head. The wounds have entirely healed, and he can walk without crutches. There is a ridge of bone lifting up the skin on the top of the head about half an inch in height; and there is a soft spot where the anterior wound was, about the size of a quarter dollar, which feels as if the skull was depressed, or was wanting there; it gives him pain to press upon it.

December 4th. I heard to-day, that when he left the hospital, he attempted to follow his previous business, that of hauling bricks; but the noise of the bricks in the cart, and the stooping required in loading them, occasioned so much pain in his head, that he was obliged to discontinue it. He has since, however, been enabled to resume the occupation, and now works without any inconvenience, and says he feels as well as he did before the accident.

ART. VII.—*Contributions to Pathology; being a Report of Fatal Cases, taken from the Records of the U. S. Naval Hospital, New York.* By W. S. W. RUSCHENBERGER, M.D., Surgeon U.S. Navy.

CASE I. *Erysipelas*.—James Wicketts, seaman, ætat. 78, was appointed in September, 1843, an assistant gate-keeper, as a reward for long service in the navy. He was a stout, short man, of florid complexion, weighing

about two hundred pounds. His general health was good, until the 2d of December, 1843, when he stated he had a foul stomach, and requested leave to take an emetic. A scruple of ipecac. was exhibited, and, not acting freely, was repeated in the evening. The next day he reported himself pretty well, except he had some stiffness of right shoulder, which he attributed to old rheumatism. At the end of five or six days, Wicketts was too unwell to leave his bed, and complained that he had rheumatism of his shoulder, which was so severe as to prevent him from moving. There was some warmth of skin; but the patient made light of the disease, because he had frequently suffered in a similar manner. During his illness he would not permit himself to be moved, nor could he be induced to submit to an examination of the shoulder. Sudorifics, anodynes, and laxatives were used. He expired at 7 o'clock P. M., on the 16th December, 1843.

Autopsy 17 hours after death; thermometer 34° F.—Body fat. Right arm and forearm œdematous. A deep, almost purple erysipelatous blush spread over the right side of the body, from the axilla to the trochanter; and the right side of the thorax was occupied by numerous small phlyctenæ. Beneath the skin of the part, the cellular tissue was denser than usual, dark coloured and inelastic; numerous small collections of healthy pus, unconfined by lymph, were scattered through the cellular tissue, and long sloughs, floating in healthy pus, occupied the spaces between the muscular fasciculi of the pectoralis major, serratus major anticus, and part of the latissimus dorsi. At a point between the second and third ribs, a purulent collection had perforated the pectoralis and intercostal muscles, made its way through the costal pleura, and produced a superficial ulceration on the surface of the lung, a fourth of an inch in diameter, the pulmonary pleura being destroyed to this extent: around this point the costal and pulmonary pleuræ were adherent to each other, and also the lung was attached there. The right pleura around the point of perforation was dark, and softer than natural. The lungs and heart were healthy. Several osseous plates of large size were found in the coats of the aorta. Stomach perfectly healthy; small intestines slightly injected.

Remarks.—This case is derived from notes by passed assistant surgeon Silas Holmes. It is worthy of notice, chiefly because it shows an exception to the general rule, that pus usually has a tendency to the surface, and where that is distant from the point of formation, it seeks to make way through a mucous covering. Here, however, we find a collection of pus perforating muscles, and a serous membrane which, being of a fibrous nature, is supposed to offer very great resistance to the ulcerative process from the pressure of purulent deposits. During the months of October, November and December, of the year 1843, several severe cases of erysipelas occurred in the hospital, but since that time the house has been almost entirely free from the disease.

CASE II. Pneumonia.—*January 8th, 1844, 6 o'clock, P. M.* Received from U. S. Marine Barracks, New York, without any report, Samuel Carson, private, M. C., native of Virginia; ætat. 35. Six months in service. States that some days since, he was sick on board of the U. S. Frigate Raritan, and transferred to the barracks. While on post this morning, about six o'clock, A. M. (thermometer 18° F., at 7 A. M.), had a

severe chill, since which he has been suffering from general contusive pains; a severe pain over right orbit and along right side of root of nose. Skin warm and dry; some thirst; tongue clean, florid and smooth; pulse large in volume, very soft, quick, and eighty in the minute; pain in small of back; belly soft; epigastrium tender; soreness of chest; slight cough. Has been habitually a hard drinker; has the appearance of a drunkard.

Eight cut cups to epigastrium and chest. R.—Calomel gr. v; pulv. Doveri, gr. x. M. Infusion of flaxseed, acidulated with currant-jelly for drink. Diet—tea, bread and gruel.

9th. Almost constantly sleeping: blows out the cheeks and lips while asleep. Several evacuations from bowels; tongue clean; thirst, heat of skin and tenderness of abdomen rather less; soreness of chest abated; pulse smaller. Right eye closed by œdema of lids, which extends over the cheek to the angle of the jaw; severe burning pain in the cheek, with slight blush, the color rapidly returning after pressure by the finger. R.—Ung. hydrarg. ʒi; pulv. camphoræ ʒi. M. Smear over painful and swollen part. Continue drink. Soup for dinner.

6 o'clock, P. M. R.—Pulv. opii gr. ii; sulph. quiniæ gr. v. M. H. s. s.

10th. Able to open right eye; headache; tenderness of epigastrium; pulse thready; skin not so hot; bowels open. Continue ointment to face; soup. Emp. vesicat. 6+6 to epigastrium.

6 o'clock, P. M. Symptoms rather better. R.—Opii gr. iii; ext. quiniæ gr. iv. M. ft. pil.—H. s. s.

11th. Bowels loose; otherwise improved. Repeat pill of last night. Ung. hydr. camph. p. d.

6 o'clock, P. M. Tongue clean, dry; pulse 132, small; respiration 36, abdominal. Suspend medicine. R.—Pulv. opii gr. xij; calomel gr. vj. Tart. antim. gr. j. M. ft. pil. vi. One every four hours.

12th. Pulse 108, small, soft; has hiccough; abdomen very tender; tongue smooth, dry; face better. Did not take the pills; slept half the night; intellect very dull; bowels twice opened. R.—Calomel gr. xij; sulph. quiniæ gr. xviii; opii gr. vj. M. ft. pil. vj. One every three hours. Sinapism to abdomen. Wine whey.

2 o'clock, P. M. Narcotised. Suspend pills. R.—Sulph. quiniæ gr. xij; aq. destillat. ʒvi. M. ft. sol. One ounce every three hours. Has taken three of the pills prescribed yesterday.

4 o'clock, P. M. Fails rapidly; pulse small, very frequent; almost insensible; breathing regular, not unusually deep or prolonged; pupil contractile. Sinapisms to abdomen and extremities. Emp. vesicat. 5+5 to nucha. Wine for drink.

6 o'clock, P. M. Slightly improved. Pulse 115, small; pupil contractile; tongue moist. Sensible when spoken to, but wandering at other times. Wine as before. Solution of quinine an ounce every hour. Erysipelas of face nearly disappeared.

Died at eleven o'clock, P. M.

Autopsy 12 hours after death; thermometer 36° F.—Body very fat. Abdominal viscera all perfectly healthy, except the liver, which was friable, of a yellow colour; gall bladder full of healthy bile.

Left lung greatly inflamed; middle and lower parts hepatized, and infiltrated with bloody pus; not crepitant. Left thorax contained a pint and a half of yellow, turbid serum, with flakes of lymph. Right lung healthy.

Brain white; dura mater and arachnoid healthy; pia mater injected; natural quantity of serum in the ventricles.

Erysipelas did not extend below the subcutaneous cellular tissue.

Remarks.—The above case is derived from notes by passed assistant surgeon Silas Holmes. The thermometer ranged on the 8th, from 18° to 21° F.; on the 9th from 12° to 24°; on the 10th, from 19° to 30°; on the 11th, from 12° to 25°; and on the 12th, from 6° to 28°. At the same time, in the halls of the hospital, it ranged from 40° to 50°.

Here we have pneumonia of the left lung, running into the third stage, and ending fatally in little more than five days, without a suspicion, in the commencement of the attack, that the lungs were seriously implicated. The order for his admission stated simply he was affected with "Fever." The slight cough and soreness of the chest were not complained of, but mentioned in answer to questions put on the subject. The prominent symptoms on the first day, were pain in the back, tenderness of the epigastrium, and pain over the orbit and root of the nose; and on the second, the œdema of the eyelids and erysipelas of the face attracted attention. On the evening of the fourth day, we find hurried respiration and frequent pulse; but pain in the chest was not complained of, and the cough, if any existed, was not noticed. The symptoms and appearance of the patient indicated a low grade of fever. There was no symptom to prompt us to auscultation of the chest. The physical signs would have indicated, no doubt, the true state of the case; but whether a true diagnosis would have led to a different result, is very uncertain. Writers generally tell us, that pyrexia, with dyspnœa, and tenacious, rust-coloured sputa, is characteristic; this statement is generally true; but the general symptoms which usher in pneumonia, except the sputa, are common to several affections of the chest. Certain diagnosis is not to be attained without auscultation, especially in complicated cases. The question may therefore be asked, what symptom, or group of symptoms, should always induce us to suspect the existence of pneumonia? Where an attack is ushered in by pyrexia, without cough, dyspnœa, or pain in the chest, why should the existence of pneumonia be suspected? That cases of pneumonia occur without cough, expectoration, dyspnœa or pain, we have the testimony of Stokes, Graves, Dewees and others. All admit the great value of physical signs, but no one tells us under what circumstances of these anomalous cases, we ought to seek for them.

CASE III.—*Disease of the Heart.*—Andrew J. Bovee, ætat. 17, native of New York, was admitted on the 15th March, 1843, from the U. S. brig Somers. The hospital ticket stated simply that he was affected with catarrh. The case appeared to be slight; it was treated with demulcents, counter-irritation to chest, and regulated diet.

April 11th, 1843. Pain in chest; coughs much; emaciates; family have died of phthisis. Ordered a mixture composed of tinct. digitalis, tinct. bals. tolu, and tinct. opii ter in die.

13th. Worse; pulse feeble, frequent; face and lips pale; coughs badly.

R.—Opii gr. ss; sulphate zinc gr. ij; pulv. ipecac. gr. j. M. ft. pil. 6ta q. q. hora sumat.

19th. Tongue red; feet and ankles swollen; is failing.

25th. Pulse full, sharp. Vs. ad deliq. incip.; suspend med.

30th. Profuse purulent expectoration; regular hectic paroxysm at night. Resume medicine of 13th.

May 20th. Has been improving since last note. "No cough, no expectoration; sleeps well; under no treatment."

31st. Ordered inf. digital. with a minute quantity of tart. antim. et potass.

June 4th. Worse; more cough; hemoptysis; paroxysm of fever.

16th. It is noted, "has improved: and this day there is no hectic, diarrhœa, cough or hemoptysis. Persist with digitalis c. antim."

July 21st. Seems to be well.

August 4th. Tumultuous and violent action of heart, felt over sternum and on right side of chest. *Bruit de scie* and *bruit de soufflet* very distinct. Rest; low diet; infus. digitalis.

13th. More uncomfortable; heart pulsates powerfully; pulse 112, small; epigastrium tender.

19th. *Bruit de soufflet* continues strong.

21st. Feels much better; still some pain in thorax.

22d. Circulation more natural; blowing sound less marked.

28th. Feet swollen; otherwise better.

October 17th. Since last date continued comfortable; no treatment. This day, it is noted, urine very scanty, and dark coloured. R.—Pulv. digitalis, pulv. scillæ, aa gr. iv. M. s. a. ft. pil. No. vi; sum. j ter in die.

18th. Double the dose of squill and digitalis.

19th. Inf. baccæ junip. for drink.

20th. Diuresis established.

21st. Passed three quarts of urine last night; feels better; persist.

22d. Swelling of feet and ankles has disappeared.

26th. Suspend medicine.

December 13th. From the 26th Oct. to date, has taken no medicine. Impulse of heart very strong; marked *bruit de soufflet*. R.—Tinct. digitalis, tinct. scillæ, aa gtt. xx ter in die. Resume infus. junip.

16th. Action of heart irregular; has headache; urine scanty; bowels loose; sleep disturbed. Add to draught of 13th, tinct. hyoseyam. gtt. xx.

21st. Better. Suspend medicine.

29th. C. c. to cardiac region.

31st. R.—Pulv. scillæ, pulv. digitalis, aa gr. j; protochlor. hydrarg. gr. ss. M. s. a. ft. pil. ter in die sumend.

January 5th, 1844. Mercurialized. Suspend pills. R.—Ext. hyoseyam. gr. vj. h. s. s.

6th. R.—Ext. hyoseyam. gr. iv; 2nda q. q. hora till pain abates. Flannel bandage to jaws; inf. baccæ junip.

7th. More comfortable; continue treatment.

8th. Suspend infusion of juniper; resume pills. Inf. petroselini for drink.

13th. Cough is troublesome. R.—Syrup scill. comp. gtt. xxx; tinct. opii. camph. ʒj.—M. cap. h. s.

16th. Draught of 13th to be taken thrice daily.

18th. Dry cups to thorax.

20th. Improved. Persist.

February 21st. General health good; bowels constipated. R.—Ol. ricini ʒj. Heart acts powerfully; has no pain.

24th. Complains of pain in abdomen. Dry cups; inf. diosmæ ʒij ter in die.

29th. In his usual state of health. Rice and milk.

March 9th. Action of heart increased. R.—Pulv. digitalis, pulv. scillæ, aa gr. j; protochlor. hydrarg. gr. $\frac{1}{4}$. M. ft. pil. ter in die sumend.

16th. Comfortable. Suspend medicine. Half diet.

April 1st. Took cold yesterday. R.—Tinct. hyoseyam., syrup scillæ, aa ʒss; tinct. opii. camph. gtt. xx; aq. dest. ʒij. M. ft. haust. 4ta q. q. hora sumend.

11th. Heart acts more violently. Urine again scanty, dark. R.—Pulv. digitalis, pulv. scillæ, aa gr. j. M. ft. pil. ter in die sumend.

May 31st. Suspend all medicine; meat diet.

June 18th. Seems to be improving. Takes no medicine.

July 14th. Citrat. ferri, gr. v ter in die.

August 16th. Has leave of absence from hospital for a fortnight, to visit some friends in the country.

28th. Resume citrat. ferri.

September 29th. Impulse of the heart seems to diminish slowly. The left side of the chest, which had become remarkably prominent, has contracted considerably in the past few weeks. General health good.

August 11th, 1845. Since September, 1844, the citrate of iron has been continued with occasional intermissions. The general health is good, and the affection of the heart seems to cause no great inconvenience. The patient is seen to spring up stairs two steps at once, and to run rapidly, producing only increase in the frequency of respiration. He has grown rapidly, and is now nearly six feet high; slender; black hair, and small round head; and is remarkable for his good looks.

October 5th. Has contracted a gonorrhœa, for which he took copaiba until the 19th, when tinct. piper angustifol. (matico), was taken thrice daily in doses of ʒij.

21st. R.—Pulv. matico gr. v ter in die *vice* the tincture.

22d. Pulv. matico gr. x ter in die.

November 16th. The matico has exerted very little beneficial influence on the discharge; suspend the medicine. R. Pulv. cubeb. ʒij ter in die.

23d. Discharge decreases. Continue.

28th. Gonorrhœa removed.

January 4th, 1846. Has been taking ferri carb. gr. v every six hours.

31st. Absent without leave, and impertinent, for which offences he is ordered solitary confinement for ten days. No restriction as to diet.

February 24th. Pain in cardiac region; pulse 100; skin dry, harsh; tongue furred, red at tip and edges. R.—Ol. ricini ʒj. As an occasional drink, to make use of a solution of supertart. potass, with a grain of tart. antim. to each quart.

25th. Feverish; pulse 102; pain in cardiac region increased, particularly on taking a deep inspiration; breathing hurried; countenance anxious. Says he has had articular rheumatism several times. Complains of pain and soreness of his joints. C. c. to seat of pain. R.—Protochlor. hydrarg. gr. xij; pulv. opii et ipecac. gr. xxiv. M. s. a. ft. pil. No. xii. sumend j 4ta q. q. hora. P. M. Blister over seat of pain.

26th. Suspend pills. R.—Pulv. opii gr. ss; protochlor. hydrarg. gr. vj; ipecac. gr. vj. M. s. a. ft. pil. No. vj. cap. j 4ta q. q. hora. Urine scanty, high coloured and irritating. Inf. sem. lini with spts. æther nitras. for drink.

27th. Less pain in the chest, but complains of pain and stiffness of the joints. Apply liniment saponis. R.—Nitrat. potass. \mathfrak{z} iss; tart. antim. gr. iss; protochlor. hydrarg. gr. vj. M. s. a. et div. in chart. xii. Sumat. j 2dna q. q. hora. 10 o'clock, *P. M.* Pulv. Doveri gr. x.

28th. Pain in chest and joints diminished; tenesmus; enema purgans. R.—Nitrat. potass. \mathfrak{z} j; protochlor. hydrarg. gr. vj; tart. antim. gr. j; pulv. opii. gr. j. M. div. in chart. xii. cap. j 4ta q. q. hora. Mercurial inunction to inner side of thighs.

March 1st. No pain in chest; joints less painful; pulse 94; countenance placid. Bowels frequently moved; gums tender; suspend powders. R.—Enema. 10 *P. M.* Pulv. ipecac. et opii gr. x.

5th. From last date is noted as improving, complaining only of soreness of the mouth, for which washes were used.

6th. Complains of fluttering of heart; joints very painful. Repeat blister, and nitrous powders of 28th ult. 10 o'clock, *P. M.* Throat very sore. Leeches were applied, but drew in perfectly. Granville's lotion to throat; hot pediluvium; enema. Suspend medicine.

7th. Better. Simple dressing to blister. 10 *P. M.* Pulv. Doveri gr. x.

8th. Feels comfortable; fluttering sensation of heart has subsided; pulse has less thrill. No medicine. Apply cotton covered with oiled silk to painful joints. 10½ o'clock, *P. M.* Restless; skin warm; pulse 108. R.—Pulv. Doveri gr. x.

9th. Better. Skin natural and cool; pulse 84; tongue moist. Feels altogether very comfortable.

10th. Feels better, though weak; pulse rather feeble. R.—Sulphat. quiniæ gr. j ter die. Beef soup.

12th. Feels easier. At 3 o'clock, A. M., vomited some acid matter. Respiration less oppressed; face ghastly, tongue yellowish; pulse small, 100; skin cool and moist. R.—Citrat. quiniæ et ferri, gr. vj; ol. valerian gtt. vi. M. ft. pil. vj; quar. cap. j; 4ta q. q. hora. A little ale and water. Oysters p. r. n. *P. M.* Stomach very irritable; rejects everything except ale, which is allowed in small quantities. Sodæ bicarb. \mathfrak{z} j.

13th. Sense of fullness in hepatic region. Skin rather warmer; pulse 80, and stronger. Side to be rubbed two or three times daily with the following. R.—Ung. hydrarg. fort. \mathfrak{z} j; pulv. camphor. \mathfrak{z} ss; ol. olivar. \mathfrak{z} j. M. *P. M.* R.—Magnes. calc. \mathfrak{z} ij; sodæ bicarb. gr. x; aq. menth. \mathfrak{z} ij. M. ft. haust.

14th. Feels better; less fullness of hepatic region; skin warm; pulse 80. Medicine operates freely, scalding verge of anus; skin has a very slight yellowish hue. Suspend pills of quinia et ferri. A wineglassful of cold infusion of gentian every fourth hour. Arrowroot. *P. M.* Tinct. opii gtt. xx h. s. s.

15th. Not so well; yellow tinge more distinct; sense of weight and fullness in hepatic region, which is slightly tender on pressure. R.—Protochlor. hydrarg. gr. ss; sacc. alb. gr. v. M. stat. sum. Continue gentian. *P. M.* Epistaxis during the afternoon, which was instantly arrested by the application of powdered leaves of matico. Pulse 88; feels restless. R.—Liq. anodyn. Hoff. \mathfrak{z} jss; sacc. alb. q. s.; aq. font. \mathfrak{z} ij. M. ft. haust. h. s. s.

16th. Verge of anus excoriated; ablution and simple dressing. Feels better. R.—Protochlor. hydrarg. gr. ss. *P. M.* R.—Hydrarg. c. creta gr. v. 10 o'clock, *P. M.* Repeat anodyne.

17th. No change. Suspend gentian; repeat hydrarg. c. creta. *P. M.*

Drowsy; pulse 100, thrilling; epistaxis; expectoration tinged with blood. 10 o'clock, P. M. R.—Acetat. ammon. $\bar{3}$ ss; tinct. castor $\bar{3}$ ss. M. ft. haust.

18th. Sp. mindereri $\bar{3}$ ss q. 2 h.

19th. Still icteric; epistaxis during the night.

21st. No change, except that the skin over sacrum is red, and tender. Wash twice daily with soap and water, and dress with tinct. myrrh. Allowed an egg for breakfast; chicken broth for dinner. R.—Pil. hydrarg. gr. iij; ol. valerian gtt. j. M. H. s. s.

22d. Feels much easier; face less contracted; limbs œdematous. Persist. P. M. Penis and scrotum œdematous. Bowels confined. R.—Pulv. jalap. comp. $\bar{3}$ j; ol. carui gtt. i; aq. $\bar{3}$ ij. M. ft. haust. To drink inf. junip. bacc.

23d. Feels more comfortable; face losing its yellow tinge; bowels moved once. Repeat powder. P. M. Repeat powder. 10 o'clock, P. M. Protocl. hydrarg. gr. j.

24th. Passed a bad night; evacuations scybalous. Repeat powder. Suspend spt. mindereri. P. M. R.—Pulv. scillæ gr. ix; calomel gr. iij; ol. valerian gtt. iij. M. ft. pil. vj; cap. 1 4ta q. q. hora.

25th. Suspend eggs.

26th. Emp. saponis, with hole in centre to relieve pressure, to be applied to excoriated buttock.

27th. Improves; sat up three hours yesterday. Mush and milk night and morning; soup at dinner.

28th. Incipient diuresis. Chicken at dinner.

30th. Teeth tender; effusion much diminished. Suspend pills.

31st. Doing well. P. M. Abdomen distended; some pain in chest; bowels confined. R.—Ol. ricini $\bar{3}$ j; ol. terebinth. $\bar{3}$ j. M. ss.

April 1st, 1846. Pain continues; bowels open. Dry cups to chest, and afterwards frictions, with equal parts of tinct. opii and tinct. aconit. rad.

2d. Action of heart very strong; tongue red at point. Suspend infus. juniperi. R.—Calomel gr. ij.

3d. Pulv. jalap. comp. $\bar{3}$ ss.

4th. More comfortable. R.—Phosphas. ammon. $\bar{3}$ ss; aq. destil. $\bar{3}$ vj. M. ft. sol. cap. coch. mag.; 4ta q. q. hora. P. M. More pain over the cardiac region. Dry cups were applied with marked relief.

6th. Still some pain over cardiac region. Dry cups p. d.

7th. Pain removed. Bowels constipated. R.—Pil. aloë et myrrh gr. x q. q. nocte.

8th. Bowels opened; feels comfortable. Persist.

9th. Abdomen a little tumid. R.—Ol. ricini $\bar{3}$ ss in ale.

10th. Legs œdematous. Suspend phosph. ammonia, which seems to have exerted no influence. Bowels free.

27th. Since last note has been more dropsical, and recurrence was had to calomel squill and digitalis, with ol. ricini or pulv. jalap. comp. Yesterday expectorated a quantity of bloody mucus. Cough troublesome; urine turbid with dark brown sediment. Diuretics.

29th. Profuse rusty muco-purulent expectoration; distinct gargouillement opposite the sixth spino-costal articulation, with pectoriloquy. *Bruit de soufflet* on second sound.

May 1st. Expired at three o'clock, A. M.

Autopsy 8 hours after death; thermometer 66° F.—Body extremely

emaciated; cellular tissue of abdomen and lower extremities distended with water. *Thorax*.—Lungs congested, dark-coloured, and studded throughout with unsoftened tubercles, but, except the left lower lobe, somewhat crepitant. The right lung gorged with yellowish spumous fluid. The cavities of the pleuræ contained a large quantity of bloody serum. The pericardium was inseparably adherent throughout its whole extent, to the heart; it was firmly attached to the diaphragm, and to the lungs, but most strongly on the right side. The heart weighed thirty-four and three quarter ounces (avoirdupois); its right side was pale and somewhat softened. The right auricle was slightly thickened; the tricuspid valve was very slightly thickened, and though not perfectly opaque, was not transparent; it was perfectly mobile and of full size. A considerable ecchymosis existed on the left auricle, and small spicula of bone studded the inner parietes. The cavity of the left ventricle was capable of containing eight fluid ounces, and its walls were ten lines in thickness. The mitral and semilunar valves were healthy.

The liver was engorged, dark-coloured, and softer than natural; its whole superior surface was adherent to the diaphragm, and to the peritoneum lining the right false ribs. The intestines healthy; the colon contained healthy fecal matter.

Remarks.—The subject of this case was more than three years in the hospital, and its history is derived from notes by Passed Assistant Surgeons Holmes, Gould, Beale and Minor. Cardiac symptoms were first noted four months after admission; during a year he enjoyed fair health, and seemed to suffer very little inconvenience from the affection of the heart. Both his parents perished from phthisis. The attack of February was induced by exposure on an intensely cold day without a jacket for a few minutes. It is worthy of note that epistaxis, whenever it occurred, was instantly arrested by snuffing powdered leaves of matico.

CASE IV. Disease of the Heart.—Samuel Lewis, Marine, ætat. 24, native of France, was received into the hospital June 5th, 1844, from U. S. Ship Columbus. Surgeon Bache states, on the "hospital ticket," that he has an affection of the heart of long standing, attended with great dyspnœa, and subject to severe exacerbations.

June 5th, P. M. Distinct *bruit de soufflet*, pulse regular, some dry cough. *R*.—Pulv. scillæ gr. j; pulv. digitalis gr. ss. *M. ft. pil. cap. q. 6* h. Half diet.

6th. Bowels loose. *R*.—Mas. hydrarg. gr. v; sulph. morphiæ gr. $\frac{1}{2}$. *M. ft. pil. cap. bis in die.*

8th. Suspend mas. hydrarg.; continue digitalis and squill.

9th. Suspend medicine. *P. M.* Frequent stools. *R*.—Pil. ipecac. comp. q. q. 6 h., i. e., ipecac. gr. vj. Ext. gentian, gr. iv. Mas. hydrarg. gr. j.

13th. Complains that he does not sleep. Ext. hyoscyam. gr. vj h. s. s.

14th. Has pain in epigastric region, increased on pressure. Apply dry cups. *R*.—Nitrat. argent. gr. $\frac{1}{6}$, in pill every four hours.

20th. Complains of pains in different parts of his body of an anomalous character. Suspend pills. Lisbon diet drink, daily.

26th. Complains of pain in breast and stomach. Apply ol. crot. tig.

July 1st. No mitigation of symptoms. Pulse tense; breathing oppressed. Venesect. ad ℥xij . Continue diet drink. Apply ol. tigllii to

cardiac region. R.—Pulv. digitalis gr. xij; pulv. scillæ gr. iij; pulv. opii gr. j. M. ft. pil. xii; cap. 1 q. 6 h.

6th. Pulse affected by the digitalis. Suspend pil. Cap. pulv. ipecac. et opii gr. viij. Apply ung. tart. antim. to cardiac region.

7th. No improvement; quite weak. R.—Lactat. ferri gr. $\frac{1}{4}$; in pil. ter in die.

9th. Coffee and tea excite circulation—forbidden. An egg morning and evening. Continue lactate of iron.

15th. No marked improvement. R.—Lactat. ferri gr. ss ter in die.

18th. R.—Liniment camph. $\frac{3}{4}$ ij; tinct. iodine $\frac{3}{4}$ j. M. ft. liniment. Apply over cardiac region.

20th. Has "returned from liberty," much worse; dyspnœa very distressing, hæmoptysis; action of heart irregular and violent. Rest in bed: continue treatment.

22d. More comfortable; action of heart less tumultuous; persist.

26th. Lactat. ferri gr. i ter in die.

30th. No change or improvement. Lactat. ferri gr. ij ter in die.

August 23d. Not so well. Much dispirited; palpitation more violent. Lactat. ferri gr. iv ter in die. Continue counter-irritant to chest. R.—Spirits æther. sulph. comp. $\frac{3}{4}$ ss inst.

24th. Had a violent paroxysm of orthopnœa last evening, which was in a measure relieved by the use of opiates and antispasmodics. Dyspnœa and palpitation still violent. R.—Lactat ferri gr. v. ter in die.

September 11th. In statu quo; continue treatment. Apply cups over cardiac region for pain in the part.

29th. Suspend lactate of iron. Much troubled with dyspnœa; legs and ankles œdematous. R.—Inf. baccæ juniperi.

October 14th. Somewhat more comfortable. Has begun to take citrat. ferri gr. v ter in die. Continue infus. juniper.

November 10th. Suspend citrate of iron.

15th. Went out yesterday. Towards evening attacked with great dyspnœa; unable to lie down; directed a solution of tart. antim. and tinc. lobeliæ every half-hour. Cut cups to chest: stimulating pediluvium.

24th. As well as he was previous to the attack: takes no medicine except the infusion of juniper berries.

December 6th. Dyspnœa increased. R.—Spirits æther. nitros $\frac{3}{4}$ j; aq. pluv. Oj. M. A wineglassful every three hours. R.—Pulv. jalap. comp. $\frac{3}{4}$ ss; stat.

13th. R.—Pulv. digitalis gr. j; pulv. scillæ gr. $\frac{1}{4}$. M. ft. pil. cap. ter in die.

30th. Pulse reduced to 30 in a minute. Suspend pills. R.—Tinct. rhei et sennæ $\frac{3}{4}$ j; spirits ammoniæ gtt. xxx. M. cap. stat.

January 3d, 1845. Caustic issue to be opened on the back.

12th. Has some cough; uses house expectorant, and has dry cups frequently applied to chest.

26th. Considerable dyspnœa on the slightest exertion. Bowels disposed to constipation. R.—Sodæ exsiccata; fel. bovis, āā gr. iij. M. ft. pil. cap. q. 6 h.

February 2d. No improvement. Continue pills. R.—Citrat. ferri gr. v ter in die. Suspend other medicines.

9th. Daily becoming worse; palpitation troublesome; R.—Pulv. jalap. comp. $\frac{3}{4}$ j.

14th. Difficulty of breathing: suspend all medicine. R.—Sulphat. qui-

niæ ʒss; citrat. ferri ʒj; ext. gentianæ q. s. ut ft. pil. xxiv; cap. i ter in die. Acet. opii gtt. xx cap. h. s.

15th. More uncomfortable. Dry cups to chest. R.—Ol. succini gtt. v; liq. anodyn. Hoff. ʒss; sacc. alb. q. s.; aq. dest. ʒi. M. ft. haust. inst. cap.

P. M. Orthopnoea very distressing; is unable to lie down for a moment; respiration panting; pulse very feeble; action of heart very rapid and tumultuous. R.—Pulv. scillæ gr. i; protochlor. hydrarg. gr. ss. M. ft. pil.; cap. q. q. 3 h.

16th. Became worse as the night advanced. All the various means resorted to for relief were useless. Expired this morning at half-past seven o'clock.

Post-mortem, eight hours after death; thermometer 39° F.—General œdema, particularly of the lower extremities; face puffy; lips and neck of a deep purple colour; external jugular vein of right side distended with blood. Cavity of the thorax contained nearly four quarts of serum. *Lungs* much engorged; the right lung adherent to costal pleura. *Pericardium* contained nearly a pint of serum. *Heart*, one-half larger than natural; enlargement confined to right side chiefly, which was enormously distended with dark, grumous blood; parietes of right ventricle and septum ventriculorum more than double their natural thickness; ventricle fully twice its natural size; slight vegetations around the auriculo-ventricular opening. Left auricle and ventricle of natural size and thickness; auriculo-ventricular opening surrounded for the space of about an inch, by a ring of dense cartilaginous deposit, interspersed with spicula of bone; patulous, somewhat resembling the rima glottidis of the larynx; aortic valves considerably thickened. *Kidneys* smaller than natural; in other respects normal. *Colon* contracted throughout its whole extent to less than half its natural size.

Remarks.—The above case is from notes by Passed Assistant Surgeon James B. Gould.

CASE V.—Aneurism of the Aorta.—Charles M'Quin, seaman, ætat. 34, native of England, was admitted April 22, 1846, from the U. S. store ship Relief. The ticket of admission stated that he was laboring under "chronic bronchitis." No history of the case accompanied the patient. He had been in the Pacific Ocean, and stated he had taken a severe cold in the Bay of Callao (Peru), from sleeping under the forecastle of the U. S. schooner Shark. Up to that time, six months since, he had always enjoyed good health.

From inconvenience and want of accommodation on board the Relief, no regular treatment had been instituted, and for several weeks past he had taken no medicine.

P. M. Left side of chest dull on percussion, and respiratory murmur in it obscure, and masked by pulsation of heart: opposite to the spine of left scapula gargouillement is noticed. On the right side of chest, the respiration, posteriorly, is tubular; anteriorly there is a peculiar whizzing sound. Respiration 48; pulse 128; countenance anxious; complexion cachectic, and adnata pearly white; skin soft, very sensitive to changes of temperature; cough; expectorates a thick, tenacious, transparent mucus.

Warm bath. R.—Tinct. opii camph. ʒiss; spirits æther. nit. ʒss; aq. font. ʒij. M. ft. haust. h. s. s. Dry cups to chest. Half diet.

23d. Coughed badly last night; slept tolerably well when cough permitted. Breathes more easily; looks better. R.—Tinct. digitalis, tinct. castor., āā ʒij; aq. destil. q. s. ft. ʒij. M. cap. c. p. 6ta q. q. hora. Inf. sem. lini for drink. Milk diet.

24th. *P. M.* Feels badly; expectorates frothy, bloody, mucus; pulse rapid; skin hot; perspiring freely. Persist.

25th. More comfortable; free from fever. Dry cups to chest.

26th. Pulse 112. Has a febrile paroxysm every evening. Seems to improve slowly. Dry cups to chest, twice daily.

28th. Allowed bread, butter and eggs for dinner. Suspend digitalis and castor.

P. M. At noon had severe chill, without rigor, which lasted an hour and a half, and was followed by fever. Is now perspiring gently. Coughs less; feels much easier. States that he had similar attacks on ship board for a month. Restless. R.—Tinct. hyoseyam. ʒj; tinct. bals. tolu ʒiss; tinct. opii camph. ʒj; mucil. acaciæ ʒj. M. H. s. s.

29th. R.—Ol. ricini ʒvj ss. Suspend other medicine. *P. M.* Had recurrence of chill at noon; cough severe; stomach irritable. R.—Tinct. opii camph. ʒij h. s. s. Currant jelly water for drink. Three evacuations from bowels.

30th. Has not coughed so much; had a comfortable night; skin moist, pulse rather feeble. R.—Ext. quiniæ gr. v; 4ta q. q. hora. Inf. prun. virg. ʒij ter in die.

P. M. Stomach rejects quinia and everything else; took two doses of quinia. Had usual chill. Suspend quinia. Mist. neutral. c. m. 2da quaque hora. Dry cups to thorax.

May 1st. Passed comfortable night: has no vomiting. Persist. *P. M.* Pulse 140, small; skin hot; vomiting constant; persist with neutral mixture. R.—Tinct. opii camph. ʒiss; neutral. mist. ʒss. M. h. s. At 8 *P. M.* Sinap. epigast. One thick bloody sputum, during the visit.

8 *P. M.* After a slight fit of coughing, a torrent of arterial blood gushed from mouth and nostrils, over himself and his bed, in a full stream. Passed Assistant Surgeon Holmes hastened to his ward, and found patient pulseless and senseless; he made a gasping inspiration and died without a struggle. The time between the first gush of blood and death, was less than four minutes. The quantity of blood lost could not be known exactly; but is estimated to have been not less than two quarts.

Autopsy fourteen hours after death; thermometer, 68° F.—Body slightly rigid; free from fat; muscles of good colour. On raising sternum with the costal cartilages, the lungs did not collapse. Right lung gorged with blood, particularly the middle lobe; crepitant. Left lung adherent to pericardium by slight and recent bands; slight adhesions of costal and pulmonary pleuræ at lower part of chest; and firm attachment of apex of lung to ribs. Left lung stuffed with tubercles, partially softened, giving the appearance, when cut into, of being infiltrated with a mixture of pus and serum. There was a cavity, capable of containing an ounce of fluid, at the apex of lung, which was ruptured in breaking up its adhesions to the ribs. There was another cavity, capable of containing a half ounce, situate posteriorly about half way between the apex and inferior extremity of the lung. The bronchi in both lungs were filled with dark coagulated blood.

The heart seemed to be healthy, of usual size, and the pericardium contained a normal quantity of healthy serum. The anterior surface of

the aorta, extending from its origin at the left ventricle, was covered by an aneurism two and a half inches in its vertical diameter, and three and a half inches long, following the course of the artery. The superior arch of the aorta, on its external face, appeared healthy. On removing the heart and great vessels, which was accomplished with some difficulty, owing to preternatural attachments of the descending aorta, there was found a second aneurism two inches long, firmly adhering to the left side of the vertebræ, and a third aneurism an inch and a half in diameter, occupied the inferior arch of the aorta; this pressed on the left bronchus near its junction with the trachea, and the bronchial tube presented at this point, evidence of inflammation and ulceration. The fatal hemorrhage, no doubt, proceeded from this tumour. The trachea was occupied by clotted blood along its whole course, including the larynx.

The substance of the heart was rather pale; the thickness of the parietes of left ventricle was six-tenths of an inch, and of the parietes of right ventricle two and a half-tenths of an inch. The tricuspid and mitral valves were of a salmon colour, opaque, and very little if at all thickened; the aortic valves were opaque, of a pinkish colour, but in other respects normal; the valves of the pulmonary artery were transparent.

The diameter of the aorta was larger than natural, its internal coat injected in spots, and slightly corrugated. It was opened along its posterior surface. Situated three and four-tenth inches from the aortic valves in a direct line, and two and two-tenth inches from the origin of the arteria innominata, was an elliptical opening, half an inch in length, with rounded edges, which communicated with the aneurismal tumour attached to the spine. At two and four-tenth inches from the aortic valves, and nine-tenths of an inch from the origin of the left subclavian artery, was a triangular opening, with rounded angles and edges, the sides of which measured six and a half, eight, and nine-tenths of an inch. This aperture communicated with the aneurism of the inferior arch of the aorta, (which had burst into the bronchus,) and with the aneurism on the anterior face of the aorta: the depth of the last was three inches from the common aperture of the two tumours. All the tumours contained laminated clots, and were covered by the external coat of the artery only.

Remarks.—The above case is from notes by Passed Assistant Surgeon Silas Holmes.

Dr. Wm. Pepper has reported a somewhat analogous case in the *Medical Examiner* for January, 1843, in which death occurred from rupture of an aneurism of the thoracic aorta bursting into left bronchus. A case of death from an aneurism of the arteria innominata bursting into the trachea, reported by myself, will be found in "*The North American Medical and Surgical Journal*" for January, 1831. The existence of aneurism was not suspected in the preceding cases, nor in the following.

CASE IV. *True Aneurism of the Aorta.*—W. D. Sautelle, Sea., ætat. 44, admitted from U. S. S. Lexington, October 7th, 1844, "affected with cardiac disease." The patient is a small man, about five feet four inches high, slender, with black eyes and dark complexion.

Strong pulsation in abdominal aorta just above the umbilicus; increased impulse of the heart and *bruit de scie* slightly heard on first sound; pulse 96; violent pulsation of cervical vessels, and continued throbbing in head,

which often keeps him awake the whole night; tongue clean, appetite good, bowels rather constipated; slight rheumatic pains in knees.

R.—Citrat. ferri gr. ss; ext. hyoscam. gr. j; ext. tarax. gr. ijss. M. ft. pil. q. q. 6ta hora sumend.

November 10th. No change. In addition to the tonic medication, R.—Acet. opii gtt. xx h. s. s. A laxative *pro re nata*.

17th. Suspend pills. R. Ferri purificat. gr. j ter die.

19th. Tinct. hyoscam. ʒj h. s. s.

29th. Lactucarii gr. ij h. s., in lieu of hyoscam.

December 8th. Action of heart and arteries less violent and tumultuous.

23d. Violent hemicrania of left side, relieved by anodynes and counter-irritation.

30th. Pain continues. R.—Quinia sulph. gr. iv; opii gr. j. M. cap. q. q. 6ta hora.

January 5th, 1845. Much better. Persist.

26th. Has had a dysenteric attack; relieved by opiate enemata and attention to diet. General health somewhat improved; quinine and opium bis die.

February 9th. Return of pain in head and joints, which was relieved by anodynes, counter-irritation and laxatives.

March 30th. In the past few days has suffered much with pains in the knees, which are relieved by the use of an electro-magnetic battery. Stimulating liniment.

August 31st. Since the above note, the journal shows that he has suffered from hemicrania and pains in the knees, for which anodynes, counter-irritation, tinct. rad. aconit., electro-magnetism, &c., have been used with various success. Has been free of pain for a week; takes nitrat. potass. ʒss; inf. sem. lini Oij for drink.

September 28th. Has been seemingly better during the month. Takes only an anodyne at night.

November 7th. Return of hemicrania and pains in knees. R.—Quinia sulph. gr. xij; ol. valerian gtt. xij; ext. gent. gr. v. M. ft. pil. No. xii. cap. i. q. q. 3ta hora.

8th. Much easier; no headache, slept well—persist.

10th. Violent pain in head. Dry cups to nape, hot pediluvium.

16th. Free of pain.

23d. Has been more free of pain in the past few days than for a considerable time before; continue pills and anodyne at night.

January 15th, 1846. Since above note, he has suffered from hemicrania and pains in the knees, with occasional intermissions of two or three days, duration. Various anodynes, tonics, counter-irritants, laxatives, &c., have been employed.

Last evening complained of pain in the cardiac region but no dyspnœa. On the *20th* complained of pain along each side of dorsal vertebræ, accompanied with distension and pain of abdomen. Relieved by dry cups and purgative enema.

23d. Head and knees free of pain; has occasional pain and distension of abdomen. On the whole more comfortable. *Bruit de scie*, very distinct on first sound; pulse has remained soft, and varying from 80 to 96.

25th. Passed eleven ounces of urine in the past twenty-four hours, of a pale ferruginous colour, sp. gr. 1.028; deposits a thick flocculent sediment which is redissolved by heat. Reddens litmus; urine becomes clear on addition of nitric acid. The addition of ammonia renders it of a bright

lake colour, and alcohol, a king's yellow. Vapour bath, and hydrochloric acid employed with dry cups to abdomen occasionally. The quantity of urine became normal.

The case continued with alternations of seeming improvement and exacerbations of abdominal pain and distension until July 1st, when he suffered very much from dyspnœa, flatulence and pains in the abdomen.

July 12th. Breathes with difficulty and with a distinct rale. Expecto-
rates dark blood freely; delirious. *P. M.* Jactitation; pulse more rapid;
dark green evacuations from the bowels. Expectorates much less blood.

Expired a half hour after midnight.

July 13th, 1846.—Thermometer 81° Fahr. *Autopsy ten hours after death.*—Body rigid; very moderately fat; lower extremities slightly œdematous; back and all the inferior portions of the body purple from ecchymosis post-mortem. Muscles of good colour.

Ribs were sawed through about two inches beyond their cartilaginous extremities, and the sternum, &c., raised up.

The right lung was extensively engorged, deep red, but not so hard as to be described as hepatized. The superior lobe contained a few tubercles, and slight pleuritic adhesions were found here as well as on the inferior lobe. The right cavity of the chest contained about a pint of serum. The left lung was healthy.

The heart was enlarged, its apex extending to lower margin of seventh rib. After removal and careful washing, it weighed, with the vessels attached, $25\frac{1}{4}$ ounces avoirdupois. The pericardium was very slightly thickened, and its vessels somewhat congested, but there were no preternatural adhesions: its cavity contained about the normal quantity of serum. On the time of junction between the auricles and ventricles, the circumference of the heart was $11\frac{1}{2}$ inches. The right auricle was very much dilated, measuring $3\frac{4}{10}$ inches by $1\frac{6}{10}$ inches; the thickness of its parietes being $1\frac{1}{2}$ tenths of an inch. Firmly attached in the pectiniform inner surface of the anterior wall, near its auricular extremity, was a fibrous clot, about an inch in extent, of irregular form and $\frac{3}{10}$ of an inch thick. This auricle would contain at least six fluidounces. The right auriculo-ventricular opening was $1\frac{4}{10}$ inches in diameter; the tricuspid valves were translucent, very slightly thickened, but seemingly capable of entirely closing the opening. The right ventricle was of normal size, the thickness of the parietes being $\frac{2}{10}$ of an inch. The diameter of the pulmonary artery at base was $\frac{9}{10}$ of an inch, and the pulmonic valves healthy. The left auricle would contain about two fluidounces; its parietes were $\frac{1}{10}$ of an inch thick. The left auriculo-ventricular opening was $1\frac{4}{10}$ inches in diameter; the mitral valves were slightly thickened, but diaphanous; the broadest valve was $1\frac{1}{10}$ inches, and the narrowest $\frac{1}{2}$ an inch in width, and were capable of fully closing the opening. The thickness of the parietes of left ventricle was $\frac{8}{10}$ of an inch, and from the insertion of mitral valve to the apex, measured inside, was $3\frac{9}{10}$ inches. The cavity of the ventricle would contain at least 10 fluidounces. The internal diameter of the aorta at its origin was $\frac{9}{10}$ of an inch; the edges of the aortic valves were very much thickened, and when brought together, openings were left, extending from the side of the artery to nearly the centre of the edge of the valve. The colour of the valves and the lining of the aorta, was a pale vermilion or salmon. Just above the valves the ascending aorta was suddenly dilated, and a true aneurism existed on the anterior side, the tumour being close down to the ventricle; its diame-

ters were $2\frac{2}{10}$ inches, and $1\frac{9\frac{1}{2}}{10}$ inches, and rising above the level of the interior face of the artery $\frac{6}{10}$ of an inch. This tumour had the appearance of being a thin patch set-in to the artery; although very much attenuated, not much thicker than stout foolscap paper, and the walls of the artery being nearly $\frac{1}{10}$ of an inch thick, all three arterial coats were distinctly traced in it. Including the tumour, the greatest external circumference was $5\frac{8}{10}$ inches. The dilatation of the aorta gradually diminished until the innominata is given off, so that at the point where the left carotid arises, its internal diameter was $\frac{7}{10}$ of an inch. The external circumference of the innominata at its root was $1\frac{6}{10}$ inches. The internal face of the aorta was rough, from interstitial deposit. Just above the bifurcation, and at the origin of the iliacs, were found small spicula of bone.

The liver was yellow, somewhat enlarged, and soft; the gall bladder distended with bile. The stomach and intestines were healthy, the latter containing fecal matter. The spleen was very small, and indurated; the pancreas were also very hard and small. The kidneys were healthy, though rather above the normal size.

Remarks.—The above case is abbreviated from notes by Passed Assistant Surgeons J. Beale, J. M. Minor, and S. Holmes.

ART. VIII.—*Case of sudden formation of Hydrocele unconnected with the development of Inflammation in the Tunica Vaginalis Testis.* By HENRY H. SMITH, M. D.

IN the various treatises upon hydrocele, with which the profession have at different periods been favoured, it has generally been admitted that more or less time was necessary to its formation. In the definition, even of acute hydrocele, the term has been limited “to those cases which are developed in the space of a few days, and are accompanied by inflammatory symptoms in the scrotum.”* Without, then, discussing the correctness of this opinion, I offer the following case, not only as an exception to the rule, but in the hope that it may assist some one hereafter in the diagnosis of what are often difficult cases, to wit, scrotal tumours.

Hugh G——, æt. 29, married about nine months, of fine muscular development, in perfect health, and by occupation a porter, was struck upon the scrotum at 7 P. M. of March 25th, 1846, by the end of a barrel of flour, which slipped against him whilst endeavouring to load a wagon, at the close of a hard day's work. The pain at the moment was so severe as to cause him to faint, and on reviving, he found, to use his own expression, “that something had burst, and that he had a large tumour in his bag which prevented his closing his thighs.”

He was immediately sent home, and at 8½ P. M. I saw him. He was

* Velpeau, Leçons Orales, par Pavillon.

then in bed, complaining of faintness; of pain in the testicles, especially the left one, and also in the small of his back. Between his closed thighs lay a tumour 21 inches in circumference, seated in the scrotum, but most developed on the left side. The skin of the scrotum was smooth and shining on the left, but wrinkled on the right side, and on the middle of the left side, about two inches from the external abdominal ring, and extending round towards the perineum, was an indented, discoloured mark, as if made by the end of the barrel.

The tumour was globular or nearly so; quite tense, but with an indefinite sense of fluctuation; largest below, and tolerably transparent when examined with a candle. The left testicle could be felt at the posterior and middle part of the swelling, enlarged and extremely painful. The left cord seemed thickened and indefinite, up to the external ring. On the right side of the scrotum there was no mark; no sense of fluctuation and no transparency to the candle; but, it seemed to contain a thick tenacious mass, like omentum. The right testicle was also painful, but not enlarged. The right cord was apparently surrounded by the mass of omentum.

The patient stated that up to the moment of his accident he was in perfect health, but that he had passed no urine for about four hours previous to, or since the accident, and that his bowels had not been opened since the day before. From these circumstances, I concluded that he either had a hernia, or that his bladder or urethra had been ruptured by the blow upon the perineum. Being, however, very doubtful as to my diagnosis, and unable from want of instruments to verify the state of his bladder, I requested a consultation, and at 10 P. M. was met by Dr. Horner, of the University of Pennsylvania. A catheter being passed into the bladder proved the soundness of this viscus and drew off about one pint of clear urine, whilst a further examination of the parts led to the belief that the swelling on the right side was an effusion into the dartos, and that the tumour on the left contained fluid.

I proceeded, therefore, to open the latter, by making a careful dissection of the tunics of the scrotum, as in hernia, until I came to a serous membrane. This I opened cautiously, lest it should prove to be the sac, and gave exit to about a pint and a half of pure serum brightly tinged with blood. This being evacuated, the position of the parts was easily recognized, and the effusion found to be limited to the tunica vaginalis testis. There being no other indications, the wound was kept open and the testicles ordered to be leeches, &c.

For about eight days after this, matter escaped from the cavity, most of which was healthy pus, but, under the use of pressure from adhesive strips and the antiphlogistic treatment generally, he was subsequently relieved, although not able to attend to his store until the forty-eighth day after the accident. At this time, the left testicle was about twice its ordinary size, though not otherwise inconvenient.

On October 29th I was again consulted by this patient on account of a strain that he had received in his knee the night previous. This had been directly followed by a swelling which I found to be a regular hydrops articuli. Under the ordinary treatment he was soon relieved.

On Nov. 4th I again examined his scrotum, and found the left testicle yet about one-third larger than natural, but evidently owing to the thickness of its external coat. The right one was of the natural size.

After a careful examination of such works as I deemed likely to assist me, I have yet been unable to find a case analogous to this one. The nearest are those cited by Mr. Pott, of hematocele instantly following blows and violent efforts.* I can therefore only speculate as to the manner in which the above effusion could have occurred.

From an attendance on his wife a few weeks previous to the accident; from his own statement; and, from various incidental circumstances, I have every reason to think that his generative organs were perfectly sound. The effusion, therefore, was not a gradual one or connected with orchitis. It could not have been the result of inflammation, from the blow, because the interval between the accident and the swelling was too short. It was not owing to the rupture of a vessel, because the liquid was serum tinted with blood and not an hematocele. There was no hernia; hernial sac; rupture of urethra or bladder, nor was there any abdominal tumour, enlarged gland, or chronic induration of the parts above.

It may therefore be presumed that the effusion was owing, First, to a peculiarity of the patient's system, as shown by the sudden effusion in the injury to another part; and Second, that the blow created it, in a way similar to the welt or swelling of the skin made by the cut of a whip; or the effusion of serum resulting from a burn.

PHILADELPHIA, Nov. 20th, 1846.

ART. IX.—*Case of Puerperal Peritonitis.* Reported by ROBERT P. HARRIS, M. D.

THE Lying-in Department of the Pennsylvania Hospital has been closed in several instances on account of the prevalence of an epidemic form of puerperal peritonitis, attended with almost certain fatality to the patients attacked.

In March, 1845, three patients were attacked by it in succession, all of which died, the most vigorous antiphlogistic treatment being pursued without success.† After the deaths of these patients, the managers of the

* Treatise on Hydrocele, page 104.

† See a Report, by Dr. F. W. Sargent, in the American Journal, vol. x, p. 287.

hospital decided not to admit any more parturient women until such time as the danger should be considered as having passed away. The wards were cleansed and whitewashed, and the windows opened to allow a free circulation of air through them. After being closed for nearly five months, it was decided to re-open them for the reception of patients, in August. The first woman delivered was watched with some anxiety, for although it was thought that every trace of the malaria of the epidemic must by this time have been entirely removed, still there remained some apprehension for the safety of the first patient. What seemed most to favour the opinion that there was no danger, was, that when the disease had prevailed, it was generally in the spring of the year.

The first woman admitted, was delivered on the 26th of August, and got well without any unfavourable symptoms. From this date until the 11th of January, 1846, nine patients were delivered, some after tedious and difficult labours, but with no unfavourable results. On the day just mentioned, the patient whose case I am about to report, was delivered.

Mary Ann Bowman, thirty-nine years of age, a native of the United States, and the mother of five children, was delivered of a healthy female child on the 11th day of January, 1846, at the Pennsylvania Hospital.

The fœtus presented the breech in the first position, and the labour was somewhat tedious, the fillet being required to facilitate the delivery. The child was born at 3½ o'clock, P. M., and in the evening twenty-five drops of laudanum were given to the mother to quiet her afterpains.

January 12th, 9 o'clock, A. M. I paid the usual morning visit to the ward, and found Mary Ann quite as well as women generally are the next day after confinement.

12 o'clock, M. Was called hastily to the patient, and found her suffering intense pain in the hypogastric and iliac regions. The whole surface of the abdomen was sensitive to the touch, and when she attempted, at my request, to take a full inspiration, she cried aloud at the pain it occasioned. The violent pain came on her suddenly, without rigors, or any other premonitory symptoms.

Dr. Hodge, the consulting accoucheur was immediately sent for. He arrived at one o'clock and visited the patient with me. The symptoms were the same as before described, with a pulse beating 84 strokes per minute. Sixteen ounces of blood were immediately taken from the arm; a warm flaxseed poultice was placed over the abdomen; a pint of warm soap and water was administered as an enema, which operated slightly; and two grains of calomel and four of Dover's powder made into two pills, were administered every half-hour.

4 o'clock, P. M., of the same day, the pulse was accelerated, 104 beats in a minute; some clots of blood came away with a small quantity of lochia; pain in the abdomen increased, with considerable tympanitis, the abdomen being as large as before delivery. Gave another enema of soap and warm water, and ordered, in addition to the pills, twenty-five drops of laudanum.

7 o'clock, P. M. Pulse 120; skin hot and dry; tongue coated with a thick white fur; pain very severe, but more paroxysmal in its character. The pills continued, and the enema of soap and warm water repeated.

9 o'clock, P. M. Visited the patient in company with Dr. Hodge.

Symptoms all more alarming. Took away from the arm forty ounces of blood, after which she was somewhat relieved, but was troubled with sickness of stomach, and vomited some dark coloured bitter fluid.

10 o'clock, *P. M.* Pulse 150, but more easily compressed; the suffering still intense. Gave her sixty drops of laudanum; afterwards ten grains of calomel, and ordered an enema, consisting of two drachms of assafœtida rubbed up with a pint of warm soap and water, to be thrown into the colon through the medium of a stomach-tube attached to the pipe of the syringe.

It is here worthy of remark, that at 1 o'clock the pulse beat only 84 strokes in a minute, and that it increased to 150 strokes per minute against 10 o'clock at night, a period of nine hours; although in that time the patient lost from her arm 56 ounces of blood. The disease now begins to yield, and at

12 o'clock, *Midnight*, the pulse is reduced to 136, and quite compressible; other symptoms being nearly the same. Gave forty drops of laudanum, which induced some sleep. The patient passed a small quantity of dark turbid urine.

13th, 2 o'clock, *A. M.* Pulse 120; pain somewhat diminished. Gave a tablespoonful of castor oil, and repeated the enema of assafœtida, soap and water, which had the desired effect.

4 o'clock, *A. M.* Pulse 104; pain less; and the patient has had some sleep, and says she feels drowsy.

6 o'clock, *A. M.* Mary Ann has had several short naps, and some discharge of lochia. She complains of great thirst.

8 o'clock, *A. M.* Symptoms nearly the same. Gave the patient fʒss of castor oil.

10 o'clock, *A. M.* Symptoms unimproved; ordered a dessert-spoonful every hour, of a mixture consisting of antimonial wine, fʒi; sweet spirits of nitre fʒiij; and neutral mixture fʒvss.

12 o'clock, *M.* The calomel and castor oil operated freely, and brought away large quantities of dark feculent matter; the tongue begins to clean at its edges, and other symptoms are encouraging. Ordered the vagina to be washed out with an injection of warm water.

4 o'clock, *P. M.* All the symptoms improved; bowels again freely opened; and the patient feels relieved. The pain, tension, and sensibility of the abdomen, all diminished.

9 o'clock, *P. M.* Symptoms continue to improve; no fever, and very little pain. Ordered a teaspoonful of solution of sulphate of morphia every hour to quiet the disturbance of the bowels, and to produce sleep.

14th, 7 o'clock, *A. M.* Patient slept nearly all night. Her symptoms much better, although some thirst and a dry skin. The bowels too laxative, to check which forty drops of laudanum in a wineglassful of a solution of starch were given as an enema with the desired effect.

12 o'clock, *M.* The patient's skin is now for the first time quite moist, and she says she feels much better, but weak from the loss of blood.

15th, 8 o'clock, *A. M.* Slept well last night. Ordered fʒss of castor oil, and to suspend all other medicines.

8 o'clock, *P. M.* Castor oil operated several times, and produced some tenesmus, to check which I directed an anodyne enema consisting of forty drops of laudanum and two ounces of starch. As a nourishment she takes chicken water.

16th, 8 o'clock, *A. M.* The patient slept well all night, and continued to improve until the 18th.

3½ o'clock, *P. M.* I found the pulse of the patient very much accelerated; great anxiety of countenance, with occasional attacks of hysteria; pain in the right iliac region, apparently seated in the caput coli. Gave her an enema of starch and laudanum, but without alleviating the pain; then thirty drops of laudanum were given by the mouth, but without success.

6 o'clock, *P. M.* Pain is increased; abdomen tympanitic over the large intestine. Ordered an enema of soap and water to be thrown into the colon by means of a stomach tube, and a blister over the right iliac region to be followed by a large emollient poultice. Afterwards fʒi of castor oil by the mouth.

19th, 8 o'clock, *A. M.* The castor oil operated, and brought away with the feculent matter, a large discharge of flatus, which relieved the pain, and the patient afterwards slept comfortably.

The secondary attack resembled in its symptoms crampy colic, and I am inclined to think that the pain was confined exclusively to the large intestine.

After this date, nothing worthy of note occurred. She recovered rapidly, and left the hospital as a wet-nurse twenty-three days after delivery. Her infant was also in good health, having been separated from her during the sickness.

Since the re-opening of the Lying-in department in August, 1845, forty-two women have been delivered safely. On the 2d of February, 1846, not quite a month after the patient whose case I have reported, was taken ill, another parturient woman was seized with puerperal hysteritis of a mild character, which yielded readily to antiphlogistic means.

Two women, delivered on the same day, August 23d, 1846, were attacked with puerperal hysteritis. The symptoms were rapid pulse, hot skin, and intense pain in the region of the uterus, increased by a deep inspiration.

These patients were both treated by active antiphlogistic means, consisting of blood-letting; purging with calomel followed by castor oil; warm fomentations to the abdomen; diaphoretics; calomel and Dover's powder in small doses; neutral mixture, and solution of sulphate of morphia. By these means, one recovered in five days, and the other in three.

At the time of the occurrence of the cases mentioned, the wards were filled with patients, none of whom had any unfavourable symptoms. When the case of puerperal peritonitis made its appearance, all the women were removed from the west ward where the patient was, and placed in the east ward, to prevent the spread of the disease, and fortunately it extended no farther. After her recovery, by way of precaution, the ward in which she was confined was scrubbed and ventilated for some time before any other patient was admitted into it.

October 1st, 1846.

MEDICAL EDUCATION AND INSTITUTIONS.

ART. X.—*Remarks upon Medical Organization and Reform, (Foreign and English.)* By EDWIN LEE, Fellow of the Royal Medical and Chirurgical Society, &c. London, 1846: pp. 121.

AT a time when the American Medical Profession is engaged in devising means for promoting its interests, and especially for improving medical education, it cannot be uninteresting to all who have the honour of the profession at heart, to learn something of the condition and movements of medical men on the other side of the Atlantic. The prevalent convictions and desires out of which arose the late National Medical Convention, held in New York, and which have prompted the call for that which is to be met in Philadelphia on the second Wednesday of next May, are neither local nor isolated. They are manifestations of a spirit which pervades France and England, even more than the United States. In the first named country, it produced the Medical Congress which assembled in Paris a year ago, the most august and enthusiastic convocation of physicians on record; in Great Britain, it caused the charters of her colleges to be amended, and several bills to be introduced into Parliament for the improvement of the profession, but which failed, successively, to be enacted. Amongst the objects aimed at, and obtained by the French Congress, were the greater equality of practising physicians; the extended duration of the term of medical study; the addition of several subjects to the prescribed curriculum; and more numerous and stricter examinations of students, and of candidates for medical degrees. In one word, the result of the deliberations was so to elevate medical education, as to diminish the number, and perfect the attainments of medical students. The same ends are contemplated by those who advocate medical reform in England, but they are still unattained; partly because her government takes no direct interest in promoting knowledge, and partly because her vicious system of medical education and police stops up the pathway to a better state. We shall explain the condition of medicine in England by the help of the author named at the head of this article, and while doing so, solicit the reader's attention to the many points of resemblance between it and that of our own country. Many portions, indeed, of Mr. Lee's book, if read separately, might easily be supposed to be written as strictures upon our own scientific shortcomings; they are at the least quite as applicable to our system as to that which is the especial subject of animadversion. It could not, it is true, be otherwise, since medical education in the United States was originally traced upon the English pattern, and has changed but little with the lapse of time. Under our present circumstances, therefore, it is believed that a sketch of Mr. Lee's essay will not be found inopportune; perhaps, it may temper the warmth with which some oppose every suggestion for improvement as an invasion of right, and moderate the excessive zeal of others who, in their haste to mend, perceive not how much good they may incautiously destroy.

About one-half of the work before us is occupied in describing the systems of medical education and organization which are established in

France, Germany, and Italy. For doing this Mr. Lee is well qualified, by his having made these subjects his particular study, on the occasion of several and prolonged visits to the continent. Already, in 1835, he had published a work on the medical institutions of that part of Europe, which was reprinted in this country, but in which, his remarks were directed, chiefly, to the condition of hospitals, and to peculiarities of doctrine and practice. In the present essay, he enters into a pretty full detail of the plans of medical education pursued in the countries above mentioned. In them it appears that no one is permitted to commence the study of medicine who has not first received a thorough classical and general education; that the courses of instruction are in no case of less than four, and generally, of five years duration; that they usually include from twelve to eighteen subjects, which the student does not learn all at once, but in succession, beginning with natural history, botany, chemistry, physics, and anatomy, and subsequently passing to others, which logically depend upon these, and ending with clinical medicine, in which all the previously acquired knowledge is applied; that medical students are subjected to repeated examinations during their studies, and to one of great strictness at their close,* in which they are obliged to give evidence of their practical knowledge, by dissections, operations, prescriptions, diagnosis, and the management of the sick, and that before a board of examiners, composed wholly, or in part, of other persons besides professors; and, finally, that in most places the title of Doctor of Medicine gives no right to practice, a right which can only be acquired by submitting to new and severer tests. It also appears from Mr. Lee's account that in the several continental countries the government has the direct control of education; that physicians are regularly trained to fill medical offices, by the discipline of passing through successive grades; that they are always paid for their services to public charities; and that although the government both rules and protects them, they have everywhere a voice in enacting laws for the profession, and, in some places, a seat in the supreme council of the state.

Having premised these facts, our author proceeds to contrast them with those presented by the state of medicine in the United Kingdom. In that country, he says, there is no directing power to control the numerous universities and colleges, which both grant degrees and give licenses to practise; bodies which are self elected, and have no interests in common with the great majority of the members of the profession; close corporations in which all authority is possessed by a few, and who nominate their successors, without any regard to attainments or desert. One of the worst features in them is, that although they were originally created for the very purpose of benefiting the profession at large, they have flagrantly violated their charters in spirit, although they may have kept the letter of the law. Thus, the college of physicians, as established by Henry the Eighth, consisted of six physicians, *and all other persons of the same faculty* within the city of

* By a decree just issued from the University of France, it has been ordered that, after the 1st of November, 1846, all medical students shall undergo an examination at the end of each of the first three years of study. In the first year, on physics, chemistry, and natural history; in the second year, on anatomy and physiology; and in the third year, on pathology. There will be three examiners, and four students at each examination. The examinations will take place between the 15th of July and the 1st of August, and any student who fails to satisfy his examiners, cannot again present himself until the following November. Unless he then passes, his ticket for the ensuing quarter will be withdrawn. If again rejected in November, he must resume his studies for a year.

London, without any distinction of rank. But this body, having power to make their own by-laws, soon enacted one declaring that the members of the college should not exceed twenty in number, and thereby converted the institution from its liberal intention to the narrow purpose of benefiting a chosen few. "England," says Mr. Kennedy, quoted by our author, "is called by foreigners the paradise of quacks, and it is an indubitable fact, that the College of Physicians has been the paramount patron of quackery, by limiting the number of *physicians*, and keeping them in this manner far below what was required to suit the wants of the public." For in the dearth of well educated practitioners, the public of course had no alternative but to employ any pretenders that offered to fill their places. So inevitable was this alternative, that the House of Lords reversed the decision of an inferior court, in which an apothecary had been condemned for *prescribing* medicine, wisely considering, no doubt, that if they who were intrusted with the education of physicians, did not furnish them to the public, they had no right to complain of the unqualified who prescribed medicines, or of the credulous who took them. And thus it was that apothecaries became legalized practitioners. The college then created, in equal violation of the spirit of their charter, grades of members, the highest or fellows, being very few in number, and the next in rank, licentiates. These latter had no share in the administration or emoluments of the college, and were not even admitted to its library or museum. Many physicians, graduates of Edinburgh, when desirous of practising in London, preferred taking a diploma in surgery, rather than submit to the implied degradation of acting on a mere license. So completely had the selfishness and avarice of a few individuals diverted from its original purpose an institution founded in a spirit of liberality and benevolence!

The College of Surgeons was instituted in the reign of George the Second, and was in its origin a close corporation, consisting of sixteen individuals chosen for life, and empowered to fill up all vacancies amongst themselves. Its charter lapsed, but was revived in 1800. The *members* of this college amount to *eight or nine thousand persons*, "but are allowed to have no more to do with the corporation to which they are said to belong, than if it were located in some foreign country." Its annual income "is between £12,000 and £13,000, over which the self-elected council have sole control, and for their individual *services*, in one capacity or another, they retain a large proportion of it amongst themselves." One of the modes in which this body has promoted science, is in enacting a by-law, providing "that *no* member of the college, whose professional practice is *not* confined to surgery, shall be elected a *member of the council*." That is to say, "the acquirement of additional information on the part of surgeons in general practice, is made the ground of their exclusion from collegiate honors!" Well may the historian call this "the most bewildering of all the eccentricities embodied in the by-laws of the medical corporations." So absurd is this regulation, that when Mr. Guthrie, before a committee of the House of Commons, was asked whether many of those gentlemen, professing to confine their professional practice to surgery, and eligible to the council of the college, do *not* confine it strictly to surgery? his reply was: "their practice is *very much medical*." The diploma of the College of Surgeons is obtained by candidates of the age of twenty-one, upon producing *certificates of attendance* upon certain courses of lectures, and hospital practice, for a defined term, the examination being purely verbal, and usually lasting from a quarter to three-quarters of an hour.

It is not surprising that, under such a system, as Mr. Guthrie stated in 1842, "among the students who entered the profession some years back, and are only *now* presenting themselves for examination under the regulations of 1836, *there are many who cannot spell very common words in their native language.*" Even the examination at Apothecaries' Hall, was more formidable than that of the College of Surgeons, and, according to a writer quoted by Mr. Lee, "the students began to look about for the means of evading it. They found that the Apothecaries' company could only touch them for *selling* the physic they prescribed; they therefore hit upon the plan of contenting themselves with the college diploma, and arranging with some chemist to supply their medicine. Thus began the existence of a hybrid class, who were surgeons without the education of surgeons, and apothecaries without the legal qualifications of apothecaries, gentlemen without the acquirements of gentlemen, and tradesmen without the risks of trade. Now, gentlemen," pursues this writer, "if you had gradually raised your curriculum of study, the fee for your diploma, and the age of admission to it, you would have done more to elevate the character of the surgical profession than all the medical reform bills Sir James Graham's measure may be the father of. You would have compelled students to undergo a thorough surgical education, and you would have afforded some sort of protection to those members of your own college who, aspiring to the higher honours of the profession, were educating themselves accordingly, from being swamped by a multitude of half-educated competitors, between whom and themselves the public would be unable to discriminate." The ease with which incompetent persons have found admission into the medical profession of Great Britain, through these institutions, is a subject of frequent and bitter complaint. A writer in the *London Medical Gazette* observes: "A cotemporary has suggested that it would be a benefit to the profession, if the universities and colleges of the United Kingdom were prohibited from granting diplomas for several years, and arbitrary as such a rule may appear, we verily believe that it would be attended with less evil to the community and to the profession than the continuance of the practice here brought to light, viz., of sending out yearly on the population of this country an army of 269 physicians, 660 surgeons, and 373 apothecaries, deriving their qualifications from sixteen different systems of study, and receiving their licenses to practice from as many different colleges, universities, and societies." This number of persons licensed to practice is about the same as that of the graduates of the medical schools of the United States in 1845-6; and if such restrictive measures, as are proposed by the writer, are called for to protect the twenty-seven millions of inhabitants of the United Kingdom, against the inroads of thirteen hundred hungry practitioners of medicine, how much stronger repression is needed in this country, where the swarm of new fledged doctors is quite as great, but the population one-fourth less? The vastness of this evil is seen to be still more overwhelming if we compare the ratios of the practitioners to the population in Great Britain and the United States. The two countries are nearly equal in population, which is about twenty millions; but, in the former, according to the census of 1841, there were about twenty thousand practitioners, (physicians, surgeons, and apothecaries,) or one to every thousand inhabitants; while, according to the usual estimate, there are forty thousand physicians in this country, or one to every five hundred inhabitants! It cannot be that our medical schools are aware of these facts; otherwise they would adopt some measures to raise the diploma a little higher than at present, above the grasp of

the multitude. Of some amongst them it may be said, as by Mr. Lee, of the College of Surgeons: "As regards the encouragements to students to apply for the diploma of the college at the earliest possible age, (21,) the present council is perhaps not more to blame than any other body of men placed under the same circumstances, and no reflection upon individuals is here intended. The error consists in the temptation having hitherto been suffered to exist, instead of its having been determined (as is the case in other countries) that examiners should receive a fixed salary." The prejudicial consequences of an overstocked state of the profession in England, are seen in disunion amongst its members, the adoption of indirect ways of seeking to obtain practice, and in the fact that many are obliged to abandon the profession, to expatriate themselves, or to seek some other employment. "Several members of the College of Surgeons are said to be now engaged as policemen at the different rail-road stations." It would not be difficult to point out parallel instances amongst ourselves. For this sad state of things our author, and most others of the English writers, agree that there is no remedy except in requiring from students a higher standard of education. Of this, Sir James Clark observes, "difficulties will no doubt present themselves to the establishment of a uniform scheme of medical education, but these difficulties are really less formidable than they at first sight appear to be. The present medical corporations and the English universities may oppose such a measure. The opposition of either ought to have little weight, if it can be shown to be unreasonable and opposed to the public weal, and assuredly whatever is opposed to the improvement of medical education, and to the elevation of the great body of the medical practitioners, is so."

"The usual mode of filling up vacancies in the charitable institutions in this country," says Mr. Lee, "is one that imperatively calls for alteration;" and as our system is almost identical with the English one, we have good reason to denounce it in similar terms. According to our author, "the present plan is this: a vacancy is declared in the newspapers; then follow advertisements by all the candidates; next the sending of circulars or testimonials; then canvassing personally or by friends; and lastly comes the main difficulty of getting voters who have promised to the polls; the real object of electing the most competent individual is thus put entirely out of the question. It is apparently never thought of, and consequently the result of the poll is not necessarily a proof of any other thing than the activity with which the successful candidate has advertised and canvassed. . . . It follows as a natural consequence of the prevailing method, that instead of endeavouring to excel by honourable exertion, many who aspire to these appointments, rather seek by what means they may ingratiate themselves with those who are most likely to forward their views." Even such a man as Sir Astley Cooper, who is usually pointed out as an example of what may be accomplished by talent and application, might never have been heard of, and his talents would very probably have been buried in some obscure locality, had he not been placed by his uncle in the position of lecturer and hospital surgeon. "How striking a contrast is presented by Dupuytren, who, poor and unfriended, was able, by means of the mode of free competition, to raise himself to the highest eminence." It is a strange inconsistency, and as humiliating as it is strange, that the liberty and the rights of professional men are more perfectly protected in monarchical than in free countries. In the latter all posts of honour and profit are bestowed by private favour, while in the

former they are the prizes of talent and skill attested by open competition. In this country no necessity of any kind obliges us to persist in the slavish imitation of the English system, which is not only degrading to every sentiment of delicacy and professional dignity, but directly at war with the principles of freedom and equality which we boast of having carried out more thoroughly than any other nation.

"The mode of remunerating the great body of practitioners in proportion to the quantity of medicine supplied to patients," is another plague-spot upon the honour of the British medical profession, which we, fortunately, do not suffer, although we are still, to some extent, oppressed with the polypharmacy which it engendered. It is gratifying to learn that in many places in England this system has already been discontinued.

It may be objected to the foregoing statements, that so far as they relate to the low condition of medical education in the United Kingdom they must be exaggerated, because so many of its medical practitioners have occupied a high rank, not merely as judicious physicians, but as men of science. But their attainments have been all the more remarkable from the rest of the profession occupying so low a level; not a few of them, too, have owed their reputation more to courtly favour than to merit. Deducting such instances, there is still a very respectable list of names adorning the past and present annals of British medical science. There are at least two principal reasons for their eminence, one, the large number of hospitals in London, which have served first as fields of study, and then as schools of instruction, to which may be added the military and naval hospitals, native and colonial; and another, the numerous body of British licentiates who annually resort to continental schools to perfect their education. They are everywhere to be found in the great centres of medical teaching. A medical class without an Englishman would be almost anomalous in Paris, but who ever heard of a Frenchman or a German studying medicine in London after graduating in his own country?

In describing the remedies which are proposed for the cure of the evils under which the British medical profession labours, we cannot enter into any detail. Our author gives summaries of four projects as proposed by Mr. Kennedy, Mr. Wakely, Dr. Forbes, and himself, respectively. They have all one feature in common, that of preserving the Colleges of Physicians and Surgeons; for, as remarked by Mr. Kennedy, "although they have been sadly mismanaged, they were, in the first instance, wisely intended, and contained in their constitution some excellent principles that cannot be surpassed." Accordingly it is proposed to continue them with certain modifications which would deprive them of their present odious features, and particularly of the power of conferring the right to practice. This power to reside exclusively in a supreme board of examiners, either elected by the colleges, or appointed by the government. We subjoin an abstract of the plan proposed by Mr. Lee, which appears to include the most important provisions of the others.

1. A supreme Council of Health, composed partly of medical and partly of non-medical members, to regulate the profession, medical education, public hygiene, and medical police, with subordinate councils in the county towns, appointing public medical officers, and collecting information in regard to the sanitary condition of the several districts.

2. An adequate compensation for the services of union medical officers.

3. The amalgamation of the Colleges of Physicians and Surgeons into faculties of medicine in London, Edinburgh, and Dublin, subject to the

control of the Council of Health, each with a dean and professors, to lecture, and to form examining boards for testing the acquirements of candidates.

4. The incorporation of the general practitioners into a college to watch over the interests of its own members only; a portion of its council to form part of the general examining board.

5. All students to go through the same course of study.

6. Two examinations to be passed before the license to practice be granted, the first upon the accessory sciences by the professors of the faculty: the second, more practical and clinical, (not before the candidate has attained the age of twenty-two,) before a joint board composed of a proportion of the professors, and of the examiners of the colleges, who should receive a fixed salary, not dependent upon the number of those who obtain the license or diploma.

7. The candidate having passed this examination, to be allowed to practice under the title of licenciate, in medicine, surgery, and midwifery; and, if desirous to do so, to present himself for examination before the examiners of the College of Surgeons, who would test, *viva voce*, and by practical demonstration, his proficiency more exclusively in surgery.

11. None of the universities or colleges to be allowed to grant licenses to practice, but only the central boards in London, Edinburgh, and Dublin.

12. Licentiates of either to practice in any part of the kingdom.

13. A complete separation between selling and prescribing drugs.

14. All canvassing personally or by friends for medical appointments in charitable institutions to be abolished, and that a mode of election be adopted more in accordance with the dignity of the profession, and the interests of science.

15. Courts of honor to be established for regulating the ethical relations of practitioners.

16. Prizes to be annually awarded for the promotion of science.

17. The revenue derived from the stamps upon quack medicines (£50,000 per annum) to be abolished.

The defects and errors of British medical organization are shown by the preceding sketch to be, not only numerous, and radical, but, if possible, worse even than those of our own system. Yet British practitioners do not despair of their correction, knowing that the power to amend them resides in the imperial Parliament, which will unquestionably enact into laws whatever may be agreed upon by the medical body. The only difficulty is, to harmonize contending interests which have grown up chiefly through the vicious practices of irresponsible corporations. Of the character of the sentiments held by the vast majority of the profession, there can be no doubt: but they cannot take the form of action without interfering with what have come to be regarded as vested rights. The corporate holders of these rights must therefore be induced to give up voluntarily some of the privileges which they now possess, whether fairly acquired or not. To refuse, might expose them to suffer compulsion from the supreme power, an alternative which it is painful to contemplate, when we consider that the subject in dispute is the lives and health of the people. Upon such a question, it is not possible that different portions of a humane and liberal profession should long remain in opposition. Mr. Lee believes that the best mode of effecting uniformity of sentiment in regard to the plans of reform which have at different times, been proposed, would be "the appointment of a commission of inquiry, composed, like the Parisian

congress, of several of the most distinguished practitioners in London, and the chief provincial towns, with a proportion of non-medical members appointed by the secretary of state, to whom the conclusions at which they might arrive should be submitted previous to the introduction of a bill into Parliament."

The obstacles to medical reform in Great Britain are, as we have seen, numerous and great, but they are insignificant when compared with those which oppose improvement in this country. To say nothing of others which will occur to every mind, there is one which appears to be altogether insuperable. Our national legislature has no jurisdiction over the subject of education, and our state governments can never be brought to adopt, in regard to it, a uniform and elevated system. Too often, indeed, they have thrown their weight into the balance against science, by legalizing and patronizing the most abominable impostures, not only degrading the medical profession in the eyes of the public, but destroying all confidence in their own wisdom. Fortunately, there is a power recognized amongst us, as superior to legislatures, and even to law itself: the power of public opinion. If government will not protect the medical profession, it must protect itself; it must do, by the power of association, what its individual members cannot perform; it must assemble, deliberate, and resolve, and having patiently, impartially, and thoroughly investigated the alleged abuses and shortcomings of our plan of education, &c., it must speak calmly, but decidedly. Its voice will not be uttered in vain. We believe that more than one institution is only awaiting such an expression of opinion by the profession, to reform and enlarge its system of teaching; and are persuaded that many more will yield spontaneously to the twofold weight of authority and example. It would be a triumphant refutation of the doctrine that learning cannot flourish under democratic institutions, if the medical profession of the United States were to show itself not only competent to its own government, but also to its attaining to the highest places of scientific distinction.

A. S.

R E V I E W.

ART. XI.—*Report of a Special Committee of the House of Assembly of the State of New York, on the present Quarantine Laws.* Presented January 22d, 1846.

An Act concerning Quarantine and Regulations in the nature of Quarantine, at the port of New York. Passed 13th May, 1846.

THE House of Assembly, of the State of New York, which convened in 1845, was petitioned, by "many of the most intelligent and patriotic residents of the city of New York," to take into consideration the grievances incident to the quarantine regulations of that port, and to remove the restrictions which were imposed upon its commerce during a certain portion of the year. Wisely deeming this request to be worthy of deliberate examination,—as it involved questions relating not only to commercial regulation, but also to public health,—the House appointed a committee of three of its members, Messrs. David E. Wheeler, C. Comstock, and R. H. Hine, to sit during the recess of the legislature, to collect information respecting the practical operation, and the propriety, of the quarantine laws, and to report to the House of Assembly of the succeeding year.

In prosecution of the duties assigned to them, the committee endeavoured with commendable zeal to procure the required information by a personal examination of the working of the system at the quarantine establishment, and by soliciting responses from a number of medical men, merchants and others, "supposed to possess practical or theoretical knowledge on the subject of quarantine and yellow fever," to questions which they proposed. Upon these materials, was based the report which they made to the legislature of 1846, and which lies before us. This report was adopted, and the act recommended by them to be passed—an act embracing most of the objectionable features of the old law, though in some respects modified—became the law of the state. It cannot be denied, that the committee had a difficult and highly responsible task to perform, for their decision involved no less serious a question than a settlement of the dispute relative to the contagiousness of yellow fever: either to adopt the doctrine of contagion, with the consequences which necessarily flow from it, or to set it aside and remove the restrictions which its maintenance imposed on commerce. It would seem proper for them, therefore, nay, it was their duty, to have sought for information, not only in New York, where it was evident that the case had been prejudged, but at every point along the seaboard of the whole country, where the danger from the alleged importation of this disease is quite as great as, and in most parts greater than it is at New York. Indeed, they virtually admit the truth of this view of their duties in one of the conclusions of their report—a conclusion which embodies a truth few will question, viz.:

"That quarantine regulations at the port of New York are necessary, but should be made as perfect as human skill can devise, and enforced by medical science, manly energy, and uprightness of purpose, with as little embarrassment to commerce as is consistent with a wise caution for the public health."

Have the committee actually taken all the means in their power to establish the propositions which they have laid down? Have they sought for information from Boston, Philadelphia, Baltimore, Charleston, Savannah, Mobile and New Orleans, as to the existing quarantine regulations of those ports, and their practical working? Or have they relied upon *ex parte* testimony, and acted upon it? Before we enter upon the consideration of the law as passed, let us look for a moment at these points; let us examine the amount and character of the documentary evidence they have collected, to see how far it warranted them in urging upon the legislature the passage of the act reported by them.

In the first place, the commercial testimony adduced, consisting of examinations of many of the most honourable and intelligent merchants of New York, shows very clearly that the restrictions imposed upon commerce during the summer and first two autumnal months—on account of the dread of yellow fever—are exceedingly burdensome, and therefore prejudicial, to the interests of the city. There is a perfect unanimity upon this matter, as well as upon the fact, that the improvements in the character of the vessels engaged in the southern trade, their larger size, better ventilation, more comfortable accommodations for the crew, and the happy change in the men composing these crews, who are better cared for, freer from the evils of intemperance, and, therefore, less liable to be attacked by the diseases of a tropical climate than formerly, are circumstances that contribute materially to diminish the causes which have been supposed to call for so rigid a quarantine system; and they agree in advocating a material change in the regulations then existing, leaving the period of quarantine, the cleansing of vessels and cargoes, and the period during which a vessel should be forbidden to come up to the wharves of the city, discretionary with the health officer, there being at the same time a proper appeal from his decision to the Board of Health. Mr. Stephen Allen, who was connected with the Board of Health of New York from 1819 to 1823, when the law of which complaint was made, was passed, and Mr. George Mills, an assistant city inspector, and afterwards assistant to the Board of Health during this period, alone among the non-medical witnesses oppose this view of the case, considering that the immunity which New York has for the last quarter of a century enjoyed from the yellow fever, is due to the enforcement of the law passed in 1823.

Commodore Jacob Jones was asked his opinion respecting quarantine regulations. We give his answer in his own words.

“*U. S. Ship North Carolina, August 9th, 1845.*

“GENTLEMEN.—In reply to your communication of August the 4th, received yesterday, I have to state, that I am unacquainted with the quarantine laws of the nations of Europe. only as far as I have felt their useless effect. It is my opinion, that no vessel should be quarantined, from whatever port or climate she may come, provided the crew are in health, and the vessel been eight or ten days on her passage. Should she have any sickness on board, I am of the opinion that the physician of the port could best decide, from the nature of the disease, the time and manner of the quarantine. Respectfully yours,

“JA. JONES.”

In the last place, we look to the medical testimony. The number of medical witnesses called upon is ten, for Dr. Archer, whose communication is given, speaks only of the propriety of hygienic improvements in the city. Of these ten witnesses, three are not citizens of New York, Drs. Harris and Ruschenberger of the navy, and Dr. William P. Hort, of New

Orleans. The two former gentlemen concur in the opinion, that the yellow fever may be, and probably has been, of domestic origin in New York, but that it may be imported by vessels in an impure condition, or having a damaged cargo—Dr. R. fears the cargo more than the vessel herself—or possibly by the clothes of passengers; circumstances which demand the unloading and thorough cleansing of the vessel before she is allowed to touch the wharves. If, however, she comes from a healthy port, or even from a sickly one, if she has been a fortnight at sea, and she appears healthy on inspection, her cargo sound, and her crew and passengers well, without having had any sickness during the voyage, they consider that so far as the yellow fever is concerned, there can be no danger in admitting such a vessel at once into port.

Dr. Hort of New Orleans, who has carefully studied this whole subject, answered the inquiries of the committee by enclosing to them a report on the question of the establishment of quarantine against yellow fever in New Orleans, read before the medical society of that city, and unanimously adopted as the opinion of that society. The main conclusions contained in it are, that at New Orleans, the yellow fever is a disease of local and not imported origin, that it is not contagious, and that, as far as it is concerned, there is no occasion for quarantine laws there.

From these gentlemen, therefore, the committee received no support in coming to the conclusion they embodied in the proposed law. Nor was the testimony from the medical men of New York unanimous, restricted as was the number (seven) of those applied to; for Dr. Reese believes that the yellow fever has been of domestic origin in New York, and that it can only be imported there in the holds of vessels, the cargoes and the passengers being wholly innocuous. He sees, however, no reason for detaining a healthy vessel even from an unhealthy port longer than is necessary to ventilate and cleanse her, a process which can be as thoroughly performed in twenty-four hours as in a month. It is true, that Dr. Reese rather invalidates his opinion respecting the cargoes of vessels, by saying, that “decaying fruits and vegetables, in the hold of a vessel, may originate the ‘malignant yellow fever,’ not only on board, but at the wharf,” &c. &c.

Dr. Sweetser thinks that “if yellow fever is contagious, it is so but in a very feeble degree; . . . and that it cannot, therefore, propagate itself in this manner, unless in occasional exceptions.” That it may be traced to ships, however, independently of imported contagion, because these were themselves foul, or had damaged cargoes, &c.; that consequently, he would never allow a vessel, however free from sickness, or however healthy the port from which she came, to come up to the wharf, during the hot season, until her own condition and that of her cargo have been properly inquired into; and, if found foul, not until she has been subjected to thorough ventilation and purification, her cargo being of course taken out. He says, “In our quarantine laws, I think it even more important that the actual and present condition of the ship and her cargo should be regarded than that of the port from which she comes.” A sound and excellent principle.

There remain but five—one half—of the medical witnesses to support the conclusions of the committee, and their testimony has certainly had paramount weight. Dr. James R. Manley, though he does not consider yellow fever to be of domestic origin without the concurrence of causes which operate in tropical climates, (the most zealous anti-contagionist says

no more—*Rev.*.) asserts that “it ordinarily, nay always occurs from causes existing on board the vessel. The cargoes, unless damaged, have in my (his) opinion little agency in producing the disease; from passengers there is *no danger*; the ship! the ship! *in ninety-nine of a hundred cases* is the cause.” He thinks that vessels arriving from any and every healthy port should not be permitted to come to the wharves on arrival; for the disease may be generated at sea, yet not show itself until upon *breaking bulk* and discharging the cargo. Nor could he permit vessels arriving from unhealthy ports during the summer or two first autumnal months to come to the wharves, though the same objection does not lie against their cargo, if properly ventilated and sound.

Dr. William C. Wallace thinks that “as by the present system of detaining suspected vessels, the city has been preserved from yellow fever for nearly a quarter of a century, it would seem inexpedient to make any change in this regard. . . . The allotted period of thirty days should not be diminished.” The doctor is evidently not of the movement party, and makes an admirable use of the argument, “*post hoc, ergo propter hoc.*” The opinions of Dr. John W. Francis upon these questions remain much as they were at the period when these matters were warmly discussed some twenty or thirty years ago. He does not believe yellow fever is ever of domestic origin in New York; that it “is most likely to arise from the foul air of ships, upon breaking bulk, and from the cargo; while passengers themselves, are a less frequent cause of its occurrence. * * * That even though a vessel from a sickly port have no disease on board during the passage, and may on inspection be pronounced in all respects healthy, and the cargo all appear sound, it may not be prudent to allow her to come to the wharf immediately after inspection.” The doctor is in fact a strict contagionist, and would therefore continue the then existing quarantine system, though in some particulars it might be advantageously modified,—for he attributes to it the longer immunity of the city from yellow fever than on former occasions.

Dr. A. F. Vaché, resident physician of the city of New York, bespeaks the calm attention of the advocates and opponents of the system, as follows.

“I am aware that it is alleged that yellow fever has spontaneously appeared on different occasions in several interior portions of our country, and I am also aware it is said to have exhibited itself in the cities and towns of sea-ports, when not traceable to any vessels connected with it; but I dispose of the one with the opinion, that the disease arose from local miasm of so fatal a character as to lead to the conclusion of its identity with yellow fever, especially as it is well known to practical physicians that the general symptoms of acute malignant fevers are very similar, and frequently require the nicest judgment of the most experienced practitioner to decide one type from the other. Of the other, I say, it is but negative testimony when the contrary has been so frequently established, and of doubtful accuracy, when the desire of health officers to avoid censure, and the interests of owners and officers of suspected vessels, are taken into consideration.” *Rep.*, p. 67, 68.

Now this is certainly very modest and impartial testimony, and should have, as it appears to have had, great weight with the committee. They have supplied in their report, pages 11 and 12, an important piece of documentary evidence which might very well have been introduced as a preamble to the above. It is the opinion of Dr. Hosack, respecting the epidemic of 1805, who, in writing to the Board of Health of New York, in refutation of the charge of having changed his opinions respecting the origin

of yellow fever, "because no particular vessel could be charged with having introduced it that year," he says, &

"I have only to remark that if I had before entertained any doubt of the origin of this calamity, the circumstances attending its appearance in the present season, (1805,) would alone have satisfied me *that it is not the product of our own soil or climate, but is always introduced from ABROAD.* . . . THE INTERCOURSE, I might perhaps say, the *unlimited intercourse*, which has existed between the quarantine ground and this city, by night as well as by day, *sufficiently* accounts for the pestilence of the last season (summer)." (The italics and capitals are as found in the report.—*Rev.*)

We have here admirable *negative* testimony in support of the foreign origin of the disease, against the positive and undenied testimony of Dr. Rodgers, the health officer at that time, that no instance occurred of any body connected in any way with the vessels at quarantine, either as officer, crew, workmen, or anything else, having taken the disease.

Though we think that Dr. Vaché has thus prejudiced the opinions of others, we accord to him full credit for the careful consideration he has given to the subject of the quarantine laws, though we cannot yield our convictions to the positions he has taken. He has not, in our opinion, produced one particle of evidence to show that the yellow fever was ever produced in any person who was not engaged on ship-board of infected vessels—either as passengers, crew, laborers or attendants. We must hold our opinion with respect to one case, that of Dr. Van Dyke, assistant at the hospital in 1843, who sickened with yellow fever, it is said, without ever having been on board of any vessel from a sickly port, though in that year several arrived with the disease on board. Dr. Van Hoesenburgh, who reports to Dr. Vaché the fact, attributes his sickness to "attendance on the numerous cases of yellow fever in the hospital, to their clothing, or to having been in the public store, where the cargoes of the infected were ventilating,"—p. 84. Still his is a solitary case among all the attendants at that time. As to the case of the Sinclair family, engaged in washing the clothes of seamen, &c., within the walls of the quarantine establishment, during the prevalence of yellow fever there in 1821, among the crews of, and attendants upon, a number of infected vessels which were there thrown on shore and broken up, (as were also the wharves of the place, by a terrible gale at the beginning of September,) and who are considered as having contracted the disease from washing infected (?) clothes, because they asserted they had never been near any of these stranded vessels, when anybody else went there, we doubt exceedingly. Nor does he give any conclusive evidence of the communication of the disease by the clothing of infected persons—he denies the possibility of any persons giving it to another when removed out of the infected district,—or by the goods from an infected vessel, though he fully believes in the possibility of such communication. Dr. V., however, must have the credit of having suggested in his report many important modifications of the law—not the least of which is that it should be re-written—which have been adopted by the committee, and have certainly removed some of the burdens upon commerce. These modifications refer not only to quarantines against yellow fever, but to the prevention of the introduction of small-pox from abroad, during the winter season, and to extending the benefits of the Marine Hospital to sick emigrants during the two years for which they are bonded, a privilege which certainly should be theirs, and for which they pay their money. The practical result of all his

reasonings is, "that yellow fever has not appeared in New York for nearly a quarter of a century, and not since the present health-laws have been rigidly enforced; therefore, let us not forget, in our zeal for innovation and improvement, the good old maxim, 'Let well enough alone.'"

But the committee have yet another strenuous supporter, Dr. P. S. Townsend, who replies "as briefly as possible, reserving the facts, data, references and extended proofs and arguments in support of my answers to another communication, in the event of my receiving from you a request that I could enter into such details." Unfortunately for the enlightenment of the profession, and for the clearing up of all the mists which obscure this subject, the committee were satisfied with this "brief" reply of only thirty-one pages. To enter upon an examination of it is not our intention—we mean merely to give some of the conclusions which Dr. T.'s extensive field of experience has enabled him to reach. In answer to the question, whether yellow fever is one of domestic origin in New York, Dr. T. says, "*Never*;" (the italics are his own;—*Rev.*) nor in any latitude, *at* or north of a degree in which *ice* is formed; in other words, where *congelation* or *a freezing temperature* exists at any season of the year." We would like to transfer the reasons for this opinion to these pages, but space is wanting in the limits allowed us; so also for the answer to the third question of the committee, "If imported, in what cases is its importation most likely to occur, by vessels, cargoes, or passengers, &c. &c.; and from which source is there most danger?" An answer which only occupies seven pages, but which is in substance in the following lucid and unanswerable paragraphs:—

"It must be clear to every one that the *importation* (the author's italics;—*Rev.*) of yellow fever must take place *through vessels or shipping with northern crews* from *proximate intra-tropical* to extra-tropical seaports. Because were it possible for the same inter-communication to take place *continuously* upon land, the time necessary to be consumed in the transit, would in almost every instance disperse, dissipate and render *innocuous* the *fugacious*, gaseous vehicle in which the *virus*, or specific germ or poison of yellow fever is now ascertained to be conveyed, i. e., the medium by which it is diffused through the air, or, in other words, the *aeriform* material or *solvent* with which it is incorporated, until *frost* dissolves or divorces the union.

"An exception to this remark would be, where such gaseous, contagious virus of yellow fever, which had been exhaled from the lungs, skin, &c., of persons sick of the disease (whether such persons had died or not), has become, as it were, *concrete*, or far more *concentrated* and virulent, by being *imprisoned* and confined, or shut or pent up or packed down, as subsequently happens in all *porous* substances or *fomites*, (as they are termed,) which also, in themselves, have a peculiar attractive power for absorbing and retaining it, as is the case with the *body or bed linen* of such person, which has become saturated with this virus thus concentrated, and which has been stowed away in trunks, chests, bedding, &c."—p. 125.

The Doctor is of course the advocate of a *rigid quarantine*, and thinks it would be idle to consume the time of the committee with the controversies relating to quarantines "at London, Paris, and in other parts of Europe," for as

"The great body of the physicians (where are the army surgeons?—*Rev.*), as well as of the people of Europe, have had little or no opportunity of any personal experience in the disease, since the year 1820, and are, therefore, incapable of appreciating the admirable and faithful descriptions . . . given of it there and anterior to that epoch, . . . they are in a measure incompetent to determine the question."—p. 144.

Such, in fine, are the statements of the physicians who may be considered as giving countenance to the conclusions of the report. We may add to their names, those of Drs. Van Hoesenbergh, and Westervelt—the former late, and the latter present health officer of the port—whose opinions are embodied in Dr. Vaché's communication. In addition to the facts adduced in that communication, the committee, in their report, give a summary account of the various epidemics which have appeared in New York and other Atlantic cities of the United States, taken from the published accounts which were given to the world at a period when the contest between the contagionists and anti-contagionists was fierce and uncompromising—a time at which most of the present advocates of strict quarantine formed their opinions, or have since imbibed them from honored preceptors who then taught them. That the committee's views should have been tinctured with the hues thus presented to their senses, is hardly to be wondered at, and is perfectly consistent with the belief, which the present writer does not hesitate to avow, that the opinions they adopted and the recommendations they urged upon the Legislature are honestly entertained, and are the results of sincere conviction. Indeed why should they be otherwise? What object could they have to continue the restrictive policy which they must know has interfered seriously with the commercial interests of the city to which they belonged, and which, once removed, they must have felt would have enlarged greatly the sources of her prosperity? What other object than a sense of duty?

Their fellow-citizens must, therefore, thank them for the benefits they have thus far conferred upon the commerce of the city, without any fear of risk to public health, and must continue to hope that the progress of sound reason and careful observation will bring about more freedom and still greater privileges to commerce—a happy consummation, which would certainly have been nearer at hand, had more extensive foreign—out of New York we mean—observations and inquiries been made.

Now what are the general conclusions in relation to yellow fever the commissioners have adopted? They state

“1st. That the yellow fever has been brought to the city of New York in her shipping, either by the foulness of the vessel, the sickness of persons on board, a damaged cargo, or clothes from those who had died with yellow fever, or from some of these causes combined.

“2d. That the yellow fever may be brought to the port of New York on ship board, when the average temperature at New York is about 80° F., from a sickly port within the tropics, and not be perceived until after her arrival, and perhaps not until after she has broken bulk.

“3d. That a vessel, from any port where the average temperature is about 80° F., not passing into a colder atmosphere, and arriving at New York in a similar atmosphere, may bring the yellow fever, if the yellow fever is prevailing at the port of her departure, or if she lays alongside a vessel infected with yellow fever, or the crew or persons on board are otherwise exposed to it.

“4th. That the progress of the yellow fever is checked by violent atmospheric commotions and destroyed by frost.

“5th. That the yellow fever is not contagious, infectious, or epidemic, in a perfectly pure atmosphere, unless it has been pent up in clothes, or other substances, from persons who have had the disease, and then it will spend itself on the persons first attacked.

“6th. That yellow fever will develop itself in from two to twelve days after infection, and may, even sooner, if the exposure is to the morbid effluvium of the disease in a concentrated form.”—Rep., pp. 43, 44.

There is still another conclusion, the 12th and last, relating to this subject:

"That if the yellow fever can find subjects unacclimated, it has the power on ship-board, or on its arrival at the port of New York, when the temperature ranges not far from 80° F., of gathering strength, or of reproducing itself, in an atmosphere vitiated by exhalations from persons confined in illy-ventilated places, by exhalations from animal exuvix, by noisome filth in docks uncovered by water at low tide, by marshy and undrained lands, by soil abounding with dead bodies imperfectly covered with earth, by decaying vegetable or animal matter, by putrid or impure food and water, by an uncleanly habit, by over-fatigue and animal exhaustion, and with these causes, perhaps with either separately, may become a malignant pestilential disease, and its march will be made more easy if the atmosphere is humid."—p. 45.

Such being the general conclusions—conclusions embracing and adopting nearly all the ultra doctrines of the advocates of the contagiousness of yellow fever—it will not excite surprise to find that the most objectionable and obnoxious features of the old law, founded on the same principles, are revived or continued in the new one, which is very nearly a transcript of the act reported by the committee to the House of Assembly. It provides (we do not pretend to criticise the wording of the law), that

"§ 2. 1st. All vessels direct from any place where yellow, bilious-malignant, or other pestilential or infectious fever existed at the time of their departure, or which shall have arrived at any such place, and proceeded thence to New York, or on board of which during the voyage any case of such fever shall have occurred, arriving between the thirty-first day of May and the first day of October, shall remain at quarantine, for at least thirty days after their arrival, and at least twenty days after their cargo shall have been discharged, and shall perform such other quarantine as the health officer shall prescribe."

Now, admitting for a moment the extreme doctrines advocated by the committee, that vessels arriving from sickly ports are justly liable to a quarantine, even though there shall be no evidence that any of their passengers or crew have been affected, either before or after sailing thence—a quarantine of observation and of precaution—what possible necessity can there be for extending the period to "thirty days after arrival, and twenty days after her cargo shall have been discharged?"

They themselves make the extreme limit of the incubation of yellow fever to be but twelve days—and yet they would needlessly protract the period during which yellow fever is likely to occur among those who should be exposed to the foul (?) air from the holds of the ships, to twenty days after the cargo is discharged. If the ground upon which this provision is partly based, viz., the difficulty of purifying vessels—(Dr. Townsend thus states this difficulty even "in vessels without cargoes and apparently clean and having ballast only. * * The virus of the disease from having had an opportunity of becoming diffused through the atmosphere below decks, fastens itself or clings, and becomes adherent to the timbers and limbers of the vessel in such manner as to resist the most persevering efforts at disinfection,"—p. 131, *Report*)—if this ground, we say, is absolutely true, in the sense in which it is intended to be taken, there is no more reason why twenty days or thirty, than any other number should suffice for the disinfection, and there is no other test of the perfect purification of the vessel than the very questionable one of allowing healthy persons to go on board of her. The whole thing is an absurdity in itself—the whole decision of these cases, as indeed of every other quarantine restriction, should be left to the discretion of the health officer, who should be selected, not because he is a political friend, but because he has other qualifications for the office and duties imposed upon him; such as know-

ledge, sound discretion, clear integrity, and unyielding firmness of character—make him besides independent of the political revolutions of every hour, and take away every possible temptation to the exercise of improper and unjust acts of authority, by making him a salaried officer, without receiving a cent by way of fee or perquisite, and by rendering his decisions liable to an appeal to the Board of Health.

As Dr. Reese observes, though we are not prepared to take the proposition in its full and literal meaning, but as expressive of a general principle, “the process of cleansing and ventilation can be as thoroughly done in twenty-four hours as in a month,” unless the age and condition of the vessel indicate that the secret of her unhealthiness is the rotten state of her “timbers and limbers,”—circumstances under which the sound discretion of the health officer would make the period of her quarantine terminate only with either the first hard frost, or the thorough repairing of every part of the vessel.

Indeed, as an able writer in the *North American Review*, vol. x., p. 414, justly observes,—his opinion is quoted by the committee, but not for profit.—“the application of quarantine laws ought not to be regulated in reference to the places from which vessels arrive, but by the state in which they arrive.” The same opinion must be held, it would seem, by every man of common sense and candid mind. In the present law, the discretionary powers entrusted to the health officer are somewhat increased. As we have before suggested, they might be rendered still more complete. His powers are:—

“1st. To remove from the quarantine anchorage ground any vessel he may think unsafe, &c.

“2d. To cause any vessel under quarantine, when he shall judge it necessary, for the purification of the vessel or her cargo, to discharge her cargo at the quarantine ground, or some other suitable place out of the city.

“3d. To cause any such vessel, her cargo, bedding, and the clothing of persons on board, to be ventilated, cleansed and purified, in such manner and during such time as he shall direct; and if he shall judge it necessary to prevent infection or contagion, to destroy any portion of such cargo, bedding, or clothing, which he may deem incapable of purification.

“4th. To prohibit and prevent all persons, arriving in vessels subject to quarantine, from leaving quarantine, until fifteen days after the sailing of their vessel from her port of departure, and fifteen days after the last case of pestilential or infectious fever that shall have occurred on board, and ten days after her arrival at quarantine, unless sooner discharged by him.

“5th. To permit the cargo of any vessel under quarantine, or any portion thereof, whenever he shall judge the same free from infection and contagion, to be conveyed to the city of New York, or such place therein as he may designate,” after having obtained the written approval of the mayor and commissioners of health.

He may also prescribe such quarantine and other regulations “as he deems proper to all other vessels which, in their ordinary passage, pass south of Georgia, from whatever part of the world they may come, and arrive at New York between the 1st of April and the 1st of November.” Under the following section he receives important powers.

“§ 14. No vessel found on examination by the health officer to be infected with the yellow fever, or to have been so infected, after sailing from her port of departure, shall be permitted to approach within three hundred yards of the city of New York, between the first day of May and the first day of October in the same year. But the health officer, with the permission of the Board of Health of the cities of New York or Brooklyn, may permit any vessel arriving at the port of New York,

to proceed to some wharf designated by the Board of Health of either of the cities of New York or Brooklyn, and discharge its cargo, provided satisfactory proof be given to the health officer that the port or ports from which such vessel sailed, was free from contagious or infectious disease at the time of sailing therefrom, and that no sickness of a contagious or infectious type has existed on board the vessel during her entire voyage."

Now both these last provisions are steps in advance. They certainly give the health officer the opportunity of relieving commerce from some of the oppressive provisions of the law, and cannot fail to be acceptable to the merchants of New York. That the provisions are wise and judicious there can be no doubt. That relating to Brooklyn happily legalizes a custom which has prevailed since the passage of the act of 1823, that of "allowing *healthy vessels and cargoes* after two days' quarantine to come to and discharge at Brooklyn, . . . of which the inhabitants must have been considered fever proof"—a custom to which Brooklyn has never objected, and from which she has never suffered. On the contrary, she has reaped from it many and great advantages, in becoming, during the summer, the *entrepôt* of goods from southern markets for New York, in having her wharves and storehouses filled, her labouring population employed, and her growth and prosperity fostered. For, even after a vessel was cleansed, ventilated, &c., even though she had been before perfectly healthy, she was not allowed to approach the wharves at New York before the 1st of October, and was therefore compelled to be loaded at Brooklyn—another of the absurdities of the old law—now partially abolished.

In many other particulars, beneficial changes have been made—but especially with regard to the comfort and care of passengers and emigrants from Europe, and in the more careful provision against the introduction of disease, as small-pox, &c., through them, as the sixteenth section of the law, relating especially to small-pox, fully attests. It provides for the visitation and subjection to such quarantine as the health officer shall direct, of every vessel which "shall have had on board during the voyage, some case of small-pox, or infectious, or contagious disease;" and it states "that it shall be the duty of the health officer, whenever he thinks it is necessary for the preservation of the public health, to cause the persons on board of any vessel to be vaccinated."

We have thus, somewhat in detail, examined the report and documents which lie before us; and can only regret that we have not found in them more to praise than to censure. One thing is certain, that the legislature has considerably enlarged the discretionary powers of the health officer, and has thus opened a door for the relaxation of some of the most onerous and vexatious portions of the law. Perhaps, under the impression that there is much truth in the opinions of the committee, that yellow fever may be imported into New York, and that the immunity from it enjoyed by that city for some twenty-four years is consequent upon the strict execution of the quarantine laws in existence during that time, the legislature acted with due caution in only partially removing the restrictions on commerce. It is to be presumed that the matter will be constantly urged upon their attention, until New York shall enjoy an equally liberal system of quarantine with the other cities on our extensive coast.

We might here enter upon a relation of the quarantine regulations which prevail at the different seaports of our country, and contrast them with those of New York. But this has already been so ably done by Dr.

Griffith in an article on the quarantine regulations of the United States, published in the first volume of this Journal, that we must content ourselves with referring to it, for the present, for information on these points, as well as for much other valuable matter relative to subjects of public hygiene. Dr. C. A. Lee has also, in his review of this report, in the *New York Journal of Medicine* for September, 1846, presented some interesting and valuable communications from the health officers of all the important seaports on our Atlantic coast;—communications which have been cheerfully sent to him by them at his request, and which show the exact state of the quarantine system at the ports they respectively have charge of, and its practical operation.* In brief, we may then state that at Boston and Baltimore, the health officers, and in Philadelphia, the Board of Health, are entrusted with entire discretionary powers in the whole subject of quarantine; nor have these cities ever had cause to regret this delegation of power on the part of the state authorities. In Charleston, the discretionary power of the port physician is limited to a certain extent by positive enactments. Thus, a vessel arriving from any place where infectious or malignant maladies, including small-pox, usually prevail, or prevailed at the time of her departure, if, at the time of her arrival, she have no infectious or malignant malady on board, is to be subjected to a quarantine of five days, or longer if the port physician judges it prudent. But she is, in fact, allowed to come up immediately to the city, the captain being bound to give information of any cases of sickness subsequently occurring, when these are removed to the lazaretto. If, however, a vessel has cases of malignant or infectious disease on board, she is to be quarantined twenty days or longer, if the port physician deems it necessary—proper means of ventilating and cleansing her and her cargo being resorted to.

At Savannah, Dr. Le Conte says,† in answers to inquiries made by Dr. Lee, that vessels from intertropical or unhealthy climates, are *never* detained or visited by the health officer, unless he has reason to suppose there is small-pox on board of them, or that their cargo is in a damaged state. “In fact, although the law vests the corporation with the power of quarantining vessels arriving from a port supposed to be ‘infected with any contagious or malignant disorder,’ yet small-pox is the *only* disease to which it has been applied.” We must quote him still farther. “The remarkable exemption of this city from the ravages of yellow fever since 1827, is unquestionably owing to a better system of police, to bringing the low lands in the vicinity under dry culture, and more *particularly* to a more philosophical application of hygienic and sanitary regulations; * * even the turkey buzzards have been starved out of the city.”

In Mobile, if we are not misinformed, there are no quarantine laws, at least against yellow fever. Of New Orleans, the same may be said. Indeed, the question of the propriety of the establishment of quarantine laws there against yellow fever was agitated in the Medico-Chirurgical Society of Louisiana in the year 1843, upon the application of the legislature of the state for advice as to the passage of such laws. A committee appointed

* It is certainly to be regretted that the committee who framed the report under consideration, did not take similar steps to collect information, which we are confident would not have been withheld from them, and which would unquestionably have helped to clear away some of the mists which obscured their vision on their own field of observation.

† *New York Journal of Medicine, &c.*, vol. vii. No. xx. p. 230.

by the society to take the matter into consideration, differed among themselves, and the society reported, through its president, that "they were not at that time prepared to recommend the adoption of quarantine regulations, but that they would keep the matter under consideration." The legislature did nothing, and matters stand as they were.

There is a recent instance, however, of the establishment of a strict quarantine, and that is at Natchez, where vessels from New Orleans are forbidden to come to the wharves or to land their cargo during certain months of the year. Since 1841, when these laws were put in force, there has been no epidemic of yellow fever there, though other towns along the river have certainly not escaped from it during this period. The citizens of this place, however, hardly feel any inconvenience from the restrictions thus apparently imposed upon their trade; for they have only to go with their goods up to the next town above, take the next descending boat, and reach their homes after a very little longer time than if they had landed directly.

We think, then, that we are justified in the opinion advanced, that a little farther inquiry would have given the committee reason to change the views they pressed upon the legislature, and have suggested further modifications to the act proposed and passed.

In addition to what has been said in other parts of this paper, we would remark that the most strenuous advocates of the contagiousness of yellow fever unite in the opinion that for the propagation of this disease in any climate, there must be a combination of the same causes which are the sources of it in tropical climates. In connection with this fact, we would quote the following remarks, made by Mr. Sydney Mason, one of the commercial witnesses of the committee; a gentleman who has long been extensively engaged in commerce, and has visited almost all the West India islands, the Spanish Main, &c., during the hot season. He says, that the improvements in the cleanliness of the southern ports has been so great, that they are not now so subject to the diseases incident to warm climates; and

"that the quarantine of vessels leaving the Spanish ports has been lessened by various foreign powers. That while the ports in the West Indies have been improving in cleanliness, the port of New York has remained stationary, and in his judgment the port of New York is now more filthy than any port in the West Indies."—*Report*, p. 272.

Now such being the state of the case, there is danger still, that notwithstanding all the precautions which may be taken by the quarantine officer, he may again be charged with a neglect of duty, because the yellow fever has appeared along the wharves of the city of New York, and with a desire "to avoid censure," in imputing the disease to local causes. Over this matter, the legislature has given full powers to the Board of Health, who should look into the subject and cause all complaints on this score to cease. It is certainly a strange thing, and we say it on the evidence of our own senses, and the almost daily remarks of the press of the city of New York that so little regard has been paid to the cleanliness of that city, until very recently; and it was not until the conviction was forced upon the citizens that some other means of carrying off the waste waters of the Croton river—which has been made to minister with its copious stream to the comfort and welfare of that city—than by the means of superficial drainage, hitherto deemed sufficient, that any systematic plan of sewerage was adopted in that city. We believe, however, that a new era in this matter has commenced; and, if it is only carried out to the extent proposed—and in the new parts of the city acted upon—with a more careful attention to the removal of nuisances

of every kind, whether arising from the accumulation of filth in the streets, or in the yards, and even dwellings in certain portions of the city, or consequent upon the filling up of docks, by the constant wash from the city, and by mud from the bottom of the rivers, or occasioned by the prosecution, within the heart of the city, of manufactures and other occupations injurious to the public health; in other words, if only a wise system of sanitary regulations is entered upon and enforced with adequate vigor—a system which will at the same time add to the comforts, and remove many of the annoyances of life—New York may abolish her quarantine laws without any fear of the yellow fever again becoming one of the scourges of her population.

We have extended this article beyond the limits originally proposed, and are therefore compelled to break off here. On a future occasion, we hope to resume the subject of quarantines, and to show what modifications are everywhere taking place in relation to them.

C. R. K.

BIBLIOGRAPHICAL NOTICES.

ART. XII.—*An Essay on the Use of Narcotics and other Remedial Means, calculated to produce Sleep in the Treatment of Insanity.* By JOSEPH WILLIAMS, M. D. London, 1845: pp. 120.

FOR the publication of this small volume, certainly one of the best that has recently appeared on the subject of insanity, we are indebted to the good sense and liberality of the Lord Chancellor of Ireland, who some time since placed at the disposal of the President and Fellows of King and Queen's College of Physicians, a premium, to be conferred upon the writer of the best essay on some subject connected with insanity. The subject selected and publicly announced was "the use of narcotics and other remedial agents calculated to produce sleep in the treatment of insanity," and to the author of the essay under notice the premium was subsequently awarded.

The author very justly remarks that "the importance of this subject cannot be over-estimated—to induce sleep in every stage of insanity is most desirable—to procure it in incipient cases is often to effect a cure—and, in many persons, the symptoms primarily nervous, become subsequently inflammatory if vigilancia be not arrested; many cases of insanity being entirely prevented by procuring sound and refreshing sleep."

Although somewhat cursorily, the author has noticed the following topics, certainly among the most interesting and important of all that are in any way connected with the treatment of insanity: viz., "the importance of early treatment in cases of insanity—the prevention of insanity, by procuring sleep—the error of always attributing insanity to organic disease—and those numerous agents which indirectly produce sleep, although not narcotics. Bleeding and the antiphlogistic treatment have been more fully considered, and an attempt has been made to show the importance of distinguishing inflammation from maniacal irritation—the great advantage of the calming and soothing system being duly estimated. Considerable attention has also been given to narcotics—the use of various kinds of baths—exercise and amusements—and traveling—together with some observations respecting metaphysical and moral treatment."

Very few of the remedies that induce sleep, are narcotics, and valuable as these last undoubtedly are, they are, perhaps, on the whole, less so than many of an entirely different character. No class of means requires greater discrimination in the selection of cases for their employment, and there are none in which a sounder judgment is required in deciding upon the extent to which they may safely be employed. Venesection induces sleep in one instance, and stimulation in another—the shower-bath in one case, and the hot bath in another. Labour brings the soundest and best sleep to many, while a purge or a full dose of laudanum alone will procure it for others.

Without attempting to enter into a lengthened discussion, we shall, as far as our limited space will admit, follow our author through some of the most important points under notice; and with a few remarks suggested by the text, give our readers a general idea of his views and principles of treatment.

A class of cases referred to in the preliminary observations will be familiar to many practitioners, and are often found afterwards under care in hospitals for the insane. Mistakes are so frequently made in the diagnosis of these cases, and the consequences of such errors are so serious, that we copy the author's very sensible observations on the subject.

"Some of the mildest cases which occur when there is preternatural excitement with vigilancia, are those of persons having over-fatigued the mental powers by continued application, more especially if confined to one subject, and the ill effects seem to be produced more frequently in those whose hopes and fears are

in addition adding to the excitement, as is often noticed in junior barristers and students at our universities.

"Now in such instances, if a young man apply early, the case is usually cured very rapidly, sometimes even within twenty-four hours; if passed over for a few days, recovery is retarded, and if totally neglected, phrenitis or mania by no means unfrequently ensues. In such cases there is great *action*, which is but too frequently mistaken for *power*: the pulse is quick, perhaps 100, 120, or even more; tongue white; face flushed; throbbing and heat of the temples; rolling, sparkling, and injected eye; rapidity of speech: everything showing great excitement. Now this description is not sufficient to guide us in the treatment, for all these symptoms may depend on excessive nervous excitement; but more attention must be given to the pulse: if the pulse, in addition to being quick, is also full, hard and bounding, and if the skin is dry and hot, then the abstraction of blood, both general and local, will usually be necessary, and often within an hour or two after depletion, the skin becomes moist, and the patient falls asleep. But what I am the more anxious to particularize is the opposite condition, when bleeding is unnecessary and unsafe. Supposing the pulse to be quick, soft and fluttering, weak or intermittent, the skin moist and clammy, and yet the excitement just as decided as in the other case, to bleed here is most improper, and many cases of insanity have arisen from such practice. The judicious administration of a narcotic will act as a charm." The cases requiring depletion are really very few, and although the pulse is to be somewhat of a guide, the amount of depletion that can be borne will not be at all in proportion to its apparent force. If the excitement is made the criterion, and depletion is persevered in, the excitement increases, and if the patient does not sink during the first stage, a tedious mental convalescence ensues, or often the sufferer sinks into *dementia*.

The author's classification of insanity is, in our estimation, a very imperfect one,—"monomania, mania, and idiotism," is neither comprehensive nor correct—for idiotism can hardly be termed insanity; it should always be distinguished from *dementia*, which is a form of mental disease either primary, or, still more frequently, the result of acute mania. Congenital dementia would be equivalent to idiotism, but it is important that dementia and idiotism should not be confounded.

Several pages are devoted to the opinions entertained by medical men of distinction relative to the seat and primary cause of insanity, and to the pathological appearances which are rarely absent in the cerebral structure when the disease has been of any considerable standing.

Every one who has had charge of many patients, will agree with our author that "it is of the greatest importance to determine whether arterial action is the result of inflammation, or whether it arises from maniacal irritation." Diagnosis here is of the greatest importance, and the error is nearly always in adopting a treatment perfectly proper for inflammation, but most unfortunate for cases of a different character. The experience of nearly all our institutions is, that in the majority of the cases brought to them, the primary treatment has been too depletory, and the frequency with which acute phrenitis is mistaken for insanity, is a proof that too much caution cannot be observed in deciding upon cases of this description.

"While *bleeding*," observes our author, "is generally injurious in the treatment of mania, it may occasionally, although rarely, be indicated. All modern authorities condemn its employment, except under peculiar circumstances; the longer disease has existed, the more dangerous is general depletion; and it is usually only in incipient cases that any good can be expected from its adoption." Cupping and leeching are referred to as much less objectionable in many cases where general depletion is quite inadmissible. The author's views relative to insanity frequently arising from irritability dependent upon prostrated power, and his recommendation of "good nutritious food, and sometimes even with brandy and wine, at the same time soothing the system by procuring good and refreshing sleep at night by morphia," will meet with approval from nearly every practical man. "In many cases, where there is the most furious delirium with great muscular power, yet the pulse is very quick, weak, and fluttering, and even the slightest depletion at once knocks down the powers; but even if the patient should again rally, there is great danger of his becoming idiotic."

Our own experience accords with the remark that, "as a general rule, the quicker the pulse the greater the danger," although the average in our maniacal cases would be lower than that given by our author.

Dr. Gooch is quoted as high authority, for the doctrine that puerperal insanity rarely bears depletion well, and that sleep is to be procured by anodyne, narcotic and sometimes stimulant remedies.

"With respect to *diet* the general rule is, nutritious but not stimulating. In incipient cases it must be a little diminished, but after a short time good wholesome food must be allowed. Too spare a diet is often most injurious, and when much curtailed, is most disastrous. A nutritious meal often wonderfully calms excitement, while hunger or craving materially aggravates maniacal irritation."

We agree with Dr. Williams that, as a general rule, medicine should never be mixed with food; when it is detected, it destroys the patient's confidence; he becomes suspicious, and frequently considers delusions respecting attempts to poison as fully confirmed.

Purging is undoubtedly often necessary in the treatment of insanity; but free purging, frequently repeated, has little confidence from the majority of those who have the care of the insane in this country, and our author's estimate of its powers we think rather higher than will be confirmed by general experience. The indications for the use of purgatives are those that would be operative in other diseases. Laxatives, however, are not objectionable.

Emetics have nearly lost the character they once enjoyed in the treatment of insanity. Dr. Williams, however, still entertains a high opinion of their efficacy in many cases where general depletion cannot be resorted to, and thinks that "the continued action of tartar emetic cannot be too much lauded in some incipient cases of mania." "Emetics," he observes, "must never be administered to paralytics, nor indeed when there is the least tendency to apoplexy; they are more useful in incipient insanity, and rarely indicated in chronic cases, and should never be given to those in advanced life." We have not very often administered emetics to insane patients, and when we have, have never observed any advantage from their use.

Opium is unquestionably one of the most valuable remedies employed in insanity, but, like other potent means, it is to be used with discrimination; and while in some its effects are truly wonderful, in another large class it is useless, and in some unquestionably injurious. To the consideration of this drug, of its different preparations and modes of administration, Dr. Williams devotes near twenty pages of his essay, and his views, in the main, have been confirmed by our experience, and we shall extract from his remarks enough to give the reader a tolerable idea of his mode of using it. We believe we are safe in asserting that the use of opiates has been more general in institutions for the insane in the United States than elsewhere; that they have been much more largely given; and that, as here employed, the most remarkably good effects have been observed. It is not to be denied, however, that even with us there is no little difference of opinion as to the precise value of this class of remedies, and that what is considered a very full dose in one hospital, is regarded as very moderate in another. Generally, however, the doses will be found larger than have heretofore, at least, been common in Europe.

"To prescribe opium," observes Dr. W., "as a narcotic in every case of mania, is bad practice; and it is this which has brought it into such disrepute in the treatment of the insane. Opium is contra-indicated when there is great heat of skin, with extreme restlessness, and determination of blood to the head; and all authorities seem agreed that it should never be administered when the system is plethoric, unless depletion or purgation, or both have preceded it; otherwise excitement will become doubly aggravated."

"When the nervous system is highly excited, and this is caused by increased arterial action, opium is contra-indicated; and if administered, the symptoms will certainly become aggravated."

"Opium will generally be found more useful in incipient than in chronic insanity; it is contra-indicated when there is congestion or inflammation of the brain, and especially if the motor nerves are affected. In paralytics, or when organic disease of the brain exists, it should never be given."

Regarding the dose, our author remarks, that "it is impossible to limit the extent to which opium may be required, but in stating that a full dose is necessary, from two to five grains may be considered a large dose for most constitutions; where habit has impaired its effect, one and even two drachms of solid opium have been taken in a very limited period." He also approves of Dr. Burrows' plan of never venturing beyond five grains in a dose; and, generally beginning with three grains, repeats one grain every two or three hours, never allowing it to exceed twelve grains, when, if sleep has not resulted, he desists.

Dr. Williams considers opium in large doses particularly indicated in puerperal and in suicidal mania, and lays proper stress upon the important fact that, "when opiates are indicated in insanity, the dose must be large." Small doses and a want of perseverance have done much to bring this remedy into disrepute.

The *liquor opii sedativus* is recommended by our author as "much milder in its effect, and less stimulant than laudanum," and, from experiments, he "found it more uniform and certain in its effects, while it did not cause the disagreeable waking symptoms so often noticed when an opiate has been given. Many persons who slept well with it, passed a restless and uncomfortable night when laudanum was substituted for it."

Opiates administered in the form of enema are highly spoken of, and surprise is expressed at the opposition to this mode of using opium, by the French, who are rather fond of enemata. Rubbing the abdomen with laudanum and oil is also mentioned with commendation when other modes do not seem practicable.

The different preparations of *morphia* have been found preferable to all other modes of administering opiates, particularly if to be long continued, and, Dr. W. believes, without the disagreeable or troublesome symptoms which have been proved to follow opium and laudanum. The hydrochlorate, he thinks, acts less as a primary excitant than even the acetate, yet more certainly as a subsequent hypnotic. "The usual dose of either the acetate or hydrochlorate is from one-third to one-half a grain; this may be given every six or eight hours if necessary, but when intended as a hypnotic, one-half a grain, or even one grain may be ordered at bed-time, when sleep usually follows, and even if this be not the case, the nervous system becomes calmed, and the patient lies in a state of repose."

Numerous authorities are quoted for the value and use of *digitalis* in the treatment of insanity, and Dr. Williams has frequently used it, and seen it used by others, successfully, to lower the pulse when there was increased arterial action, care having been taken that the antiphlogistic treatment had preceded it,—and sleep has frequently been found to follow its employment.

"The tincture seems the most eligible form for administering digitalis, and about ten minims every six hours may be considered an average dose to commence with in maniacal cases; if the pulse does not diminish in frequency, five or six days after its employment, it should be discontinued."

"*Hyoscyamus*," our author observes, "is especially useful in nervous habits, and is particularly indicated in monomania, and even the temporary quiet derived from it in mania, is often of the greatest benefit. When there is excessive nervous irritability, it has often a remarkably calming and soothing effect; it may also be given when there is vascular excitement, when opium is so strongly contra-indicated; it does not excite the brain in these cases, and is often found to reduce arterial action."

"When a sedative has to be continued from day to day, or several times during the day, hyoscyamus will be often the very best we can select: as, in addition to its tranquilizing effects, it will not check, if it does not actually cause diaphoresis, while it promotes the flow of urine, and also relaxes the bowels."

Dr. Williams believes that hyoscyamus accumulates in the system, and records the case of a gentleman who by order of his physician took five grains of the extract, three times a day, for six weeks or longer. "Vertigo, syncope, and extreme depression suddenly occurred, the pulsations of the heart very feeble. Brandy and ammonia were largely administered before the slightest reaction took place." Every one expected the immediate death of the patient. There were no indications of organic disease, and the symptoms were afterwards referred to the cumulative effects of the hyoscyamus. The patient ultimately recovered.

From five to ten, fifteen, or even thirty grains of the extract, Dr. W. says, may

be given at once, but when necessary to be repeated, he considers from five to ten grains an average dose. He also cautions against giving henbane as an enema, "as several fatal cases have resulted from this indiscretion, and therefore it should *never* be given in this form."

Conium is referred to, but not as a very powerful agent in producing sleep. It is really in our estimation a valuable remedy, particularly in the treatment of certain cases of chronic insanity, but we have never known it used simply to produce sleep, nor have we noticed that effect from its employment.

Of *Camphor*, Dr. W. says from fifteen to twenty grains must be given to produce its desired effect; if half a drachm be administered it acts very powerfully as a narcotic, and is often found very useful in calming delirium. There is great diversity of opinion, however, on this point, some considering it a very valuable remedy in this disease, and others as nearly or quite useless.

Our author considers *belladonna* one of the most powerful sedatives we possess. "It acts by diminishing the sensibility of the nervous system, and hence it is specially indicated in those cases of mania where there are pain and increased sensibility of the brain; and in some of those cases of dementia where there is such extreme irritability, it is likely to prove very serviceable."

It is always best to begin with small doses, and gradually increase them, and in all large doses of narcotics, it is highly important that the patient should be frequently seen and his symptoms carefully observed.

Hydrocyanic acid is referred to, but the known bad effects it has produced in insanity, and the very doubtful good ones, should lead to great caution in its use.

A passing notice is given to *colchicum*, *stramonium*, *aconite*, *tobacco*, *hops*, *quinine*, and *arsenic*, but none are highly recommended, and although they may be in rare instances of some use, they are not likely to have a high character among the means for inducing sleep in insanity.

Warm baths are referred to as among our most valuable means, and as fulfilling some of the most important indications in the treatment of insanity. They deserve all that Dr. W. says in their favour, and of all the means we have ever tried, they have most frequently given us satisfaction, in controlling excitement, calming restlessness, and in inducing sleep. Dr. W. thinks 96° Fahr. usually the best temperature, and that they should never exceed 98°. "It is often asked how long should a patient remain in a bath, and how frequently should it be repeated? It may be necessary to order a bath daily, or even twice a day, and the patient may be immersed half an hour, one hour, or even two hours, the time depending on the effect produced." The *semicupium* and *pediluvium* are also noticed as valuable remedies. The *cold bath* and *shower bath* are recommended as occasionally inducing sleep when other remedies have failed, but discrimination is necessary in their use.

Active exercise in the open air, and regular occupation, Dr. W., in common with most practical men, considers one of the very best means for inducing sound and refreshing sleep, and what renders it peculiarly valuable, is its applicability to a very large class of chronic cases, and the facility with which any ill effects arising from its use may be observed.

In the concluding observations, and throughout the essay, the views advanced by our author are generally correct, and many of them highly important. The whole essay is one which cannot fail to be of service to many practitioners who have seen little of insanity, and tending, as it does, to the inculcation of sound principles and judicious practice, it can hardly fail to be regarded with more favour by the profession than many publications of much greater pretensions.

T. S. K.

ART. XIII.—*An Anatomical Description of the Diseases of the Organs of the Circulation and Respiration*. By CHARLES EWALD HASSE, M. D., Professor of Pathology and Clinical Medicine at the University of Zurich, &c., &c. Translated and edited by W. E. SWAINE, M. D., Physician Extraordinary to H. R. H. the Duchess of Kent: 8vo. pp. 377. Philadelphia: Lea and Blanchard, 1846.

THE fact of the present volume having been selected by the Sydenham Society, and expressly translated by their authority, to form one of the works of the series published for the use of its members, would alone be a very strong evidence of its merits. But the treatise stands in want of no extraneous support to ensure its favourable reception by the profession. The author has very successfully accomplished his task “to make the actual knowledge of pathological anatomy subservient to an *Anatomical History of Disease*.”

His materials have been selected with great judgment, and judiciously arranged; the author has confined himself to simple observations, and has evidently aimed at awarding to facts their full weight; rejecting all theory and hypothesis based upon a less solid foundation.

The work, as is very correctly remarked by Dr. Swaine, “will not be found to contain a mere descriptive catalogue of curiosities in morbid anatomy, nor records of extreme or severe cases only, but a thorough anatomical and physiological account of the origin of disease, of its progress through its several phases, and of its ultimate issue in death, in abiding organic mischief, or in recovery. The practical utility of this plan, apart from the truthfulness and ability with which it is carried out, few will be disposed to contest, for to use the words of a highly distinguished physician of the present day (P. M. Lathan), ‘so far as morbid anatomy contemplates the last or latest results of disease that are fixed and irremediable, and unalterable, its value is very small. But so far as morbid anatomy contemplates *disease in progress*, and scrutinizes and explains its organic processes, its value is very great.’”

We know of no work in which the anatomical history of the diseases of the circulatory and respiratory organs may be more profitably studied, or from which a more accurate knowledge may be acquired of the physical changes that occur in those organs, during the successive stages of the different diseases to which they are liable, so far as these are revealed by the observations in morbid anatomy, that have been heretofore made and carefully verified.

It is not only adapted for the use of the student, by the clearness and accuracy of the descriptions of the morbid changes connected with the several diseases treated of, but forms an excellent manual for the use of the physician, by the fullness and faithfulness with which it presents the present state of our knowledge of pathological anatomy in reference to the organs embraced in it.

It is unnecessary for us to present a more extended notice of the work of Dr. Hasse, as it must very shortly be found in the hands of the members of the profession generally.

D. F. C.

ART. XIV.—*The Why and the Wherefore; or, the Philosophy of Life, Health and Disease: new and original views explanatory of their Nature, Causes and Connexion; and of the Treatment of Disease upon a few General Principles, based upon the Laws of Nature and Common Sense: with Rules for the Preservation of Health and Renovation of the System. The fruit of thirty years' observation and personal experience*. By CHARLES SEARLE, M. D., F. R. C. S. E.; and late of the E. J. C. Madras Establishment. “A cripple on the right road will sooner reach the distance-post than a racer on the wrong.”—*Swift*. 8vo. pp. 266. London: 1846.

THE work of Dr. Searle is addressed “to the public, rather than to the profession—its objects are to lay open,” to the latter, “the delusions of incompetent pretenders, and to impart that amount of knowledge which every individual ought to possess,” on subjects “of pre-eminently personal importance,”—the causes, prevention, and cure of disease. Such being its character, we doubted, at first,

whether it was a publication that came legitimately within the scope of our journal. Its very high pretensions, however, as a treatise, which, "without omitting anything essential to its elucidation, presents to the reader a complete system of the science and practice of medicine, and of the philosophy of life and health,"—"embodying the germ, if in reality it bears not the perfect fruit of much good," has caused us to waive all objections based on its popular character, and to give to it a brief notice.

Dr. Searle has attempted the impracticable task of compressing within the compass of two hundred and sixty-six small pages, a general view of the principles of physiology, pathology, therapeutics, and hygiene; and has, in consequence, left himself no room for that full and explicit exposition of his own "new and original views," in explanation of "the nature, causes, and connexion" of "life, health, and disease," and of the treatment of the several maladies to which the human organism is liable, which is so essential to a correct estimate of their true value. Being thus unable to enter into the "why and the wherefore" of the peculiar doctrines he advocates, we find him constantly advancing propositions—if not of a very novel, still of a very doubtful character—with all the dogmatism of truths fully established and universally received. He would appear, from this very cause, to be ignorant that the correctness of many of what he has assumed as facts has been strongly controverted by some, while it is totally denied by other distinguished authorities, and for reasons that have not yet been successfully controverted.

To present a general character of the volume before us, we should say that it was one very illy adapted to convey useful information to the public on the organization and vital laws of the human body, and of the nature, causes, and treatment of its diseases—while the members of the medical profession will be able to cull from its pages but little, if anything, calculated to improve their knowledge of pathology or therapeutics. The author has, it is true, introduced into the work several very excellent practical remarks—but these, far from being of a novel character, are precisely such as would suggest themselves to every well-informed and experienced physician. The peculiar views of Dr. Searle, whether in relation to physiology or pathology, will not, we suspect, be very favourably received by the profession; if we mistake not, their prototypes have been long since rejected, while each subsequent advance we have made in our knowledge of the vital laws of the animal organism, in health and disease, has destroyed every vestige of a foundation upon which their successful revival can be based.

A short notice of the work will enable our readers to form a tolerably accurate judgment of its character.

The first chapter is devoted to a consideration of Life, its nature, source, and production.

The author's theory of life is extremely simple. The principle of vitality he assumes to be electricity, and the cause of life to be chemical action. Chemical action being the primary link or bond, as he expresses it, by which motion and life are developed; and this, in the simplest form of vitality, as it exists in the vegetable creation, is the means by which inorganic substances—earth and air—are converted into organic or living bodies.

"Life, and the warm temperature of the body which accompanies it in man, are both derived at birth from the parent, but are maintained afterwards by the air and nutriment received into the system from without, by the agency of the chemical affinities existing between the constitutional particles of the air and food, and the actions developed thereby in the appropriate apparatus afforded, by the organization or structural endowments of the system, for their maintenance and exercise: Life absolutely being the sum of these powers or results educed.

"The principle of life,—that is to say, the actuating motive, or *nervous power*—the 'vital force' of Liebig—is, however, electricity, evolved from the blood (a compound of air and nutriment) under the excitement of caloric, the body's temperature, and its pre-existing electrical or vital condition. This evolution takes place, more particularly at the extreme points of the blood's circulation in the capillary vessels, or those intermediate, the arteries and veins, in which the final changes in the composition of the blood are effected. These vessels entering into the composition and structure of every organ and part of the body, and con-

stituting by their number the principal part of their substance, fulfil the purposes of nutrition, assimilation, and secretion,—the primary and fundamental functions of life.”

“Simultaneously with the slow combustion of carbon and hydrogen in the blood, developing caloric, is the electricity of the system also evolved; the chemical changes attending this process of combustion, or combination of oxygen with the carbon and other elements of the blood, being the principal source of its development, in like manner as both light and heat are evolved by the combustion, in the fire-grate, of coal, a compound of carbon and hydrogen, by its union with the oxygen of the atmosphere, under the excitement in this case also of heat (imparted in the first instance by lighting the fire,) but perpetuated afterwards by the caloric of its own generation. Thus the body, when once set in motion, is capable of generating its own motive power, if duly supplied with food and air, like the locomotive steam-engine when furnished with its supply of fuel and air; water in both cases being also essential.”

“We thus see the source of caloric and electricity, or, in other words, vital temperature and nervous energy, resulting from the chemical changes effected in the composition of the blood, and which take place more particularly in the capillary vessels or organic structures, in which the final changes in its composition are effected: hence the general and equable temperature at all times maintained, and the vitality, or organic life of the system,—the same as, or analogous in kind, to life as it exists in the vegetable creation.”

From these extracts we learn, that organic life, according to the views of Dr. Searle, consists solely in a series of chemical changes effected in the composition of the blood—by the addition of new materials from without, and the deposition from these of the materials which enter into the composition of the several organs and tissues in the course of the circulation; these chemical changes being excited and maintained by the electricity “evolved from the blood under the excitement of caloric.”

Animal life, or that “connected with organs of sense and volition, and influenced through the medium of the brain and nerves,” is, our author remarks, “superinduced by, and wholly dependent upon, the organic life.”

The second chapter comprises a brief account of the structure and functions of the various organs of the body.

Concise as is the author's exposition of the physiology of the principal organs, this portion of the work would afford much for comment had we the inclination and time to test the validity of the views advanced; we should not, however, be doing our readers justice were we not to present them with some account of Dr. Searle's explanation of the physiology of the nervous system.

He lays it down as an axiom, that electricity is the excitant of all the functions of the organism. When, however, it is employed as the excitor of the more complex actions or functions of the several organs, the electricity is “in a more concentrated form, or intense condition, than that in which it is generated or developed in the capillary system, and thence transmitted by the *collecting nerves* to the ganglions, or centres of this the sympathetic system of nerves—the centres of accumulation and supply of the vital organs, or those concerned in the formation, purification, and circulation of the blood. From these ganglions, situated in the abdomen and chest, is the electricity in this more intense form, or condensed condition, supplied, in accordance with the requirements and necessities of the several organs, through the instrumentality of their respective nerves.”

Dr. Searle explains the sympathy, or general consent and association, existing between all the organs, and the connection between the body and the mind,—the integrity of the functions—the reflex actions, and the dependence of the organs of the body upon the state of the mind—and this upon the former—by the supposed discovery of Mr. G. Rainey (*Lancet*, 21st Feb., 1846), that the arachnoid membrane consists of a plexus or expansion of the branches of the sympathetic nerve, which accompany the carotids in their distribution to the brain, and which hold likewise immediate connection with the large ganglions of the neck and the rest of the sympathetic system.

According to our author the nerves, which proceed from, and are connected with, the spinal marrow and brain, “are the conductors of electricity—like the

wires or chain of connection employed in an electrical battery—and of impressions from and to these organs.”

The functions of the sympathetic system of nerves are, agreeably to the physiological doctrines of our author, “to collect the electricity as it is developed in all and every part of the system and transmit it to the ganglions, for distribution to the vital organs and to the brain.”

“The amount of electricity developed in any part, is necessarily in proportion to the quantity and character of the blood (the arterial only being the source of its development) supplied thereto. Now, the brain is said to be furnished with a threefold greater proportion of blood than any other organ, it being supplied with four vessels, the two carotid, and the two vertebral arteries. Hence, the quantity of electricity developed being considerable, the numerous collections of nerves which accompany the ramifications of these vessels in the substance of the brain, or rather returning with them, unite, and form the arachnoid membrane or plexus, which enfolds the brain, and the spinal marrow in connection with it. The electricity thus furnished and accumulated in the arachnoid plexus, becomes an available fund for the excitement of these organs, in all their functions, though connected, at the same time, with that of the vital organs.”

Some idea of the author's theory of the mental operations may be derived from the following:—

“The accumulated income of electro-nervous power of the arachnoid plexus, and of the ganglions of the sympathetic system,—which, as I before said, is a united fund—is not to be supposed at any time considerable in amount; seeing the demands upon the fund are so constant and manifold—for the excitement of the respiratory muscles, the heart's power, with the digestive and numerous secretive functions, which are at all times in operation even during sleep; and further when awake, for exciting the organs of sense, the mind to thought, and the exercise of its faculties; and for actuating, also, the powers of volition in muscular contraction. It is reasonable to suppose that the expenditure of electricity at most times is equivalent to the supply, or nearly so—its abundance exciting the brain to its expenditure: hence, ‘he whistled as he went for want of thought;’ and hence it is, also, that young animals are always so gay and frolicsome. But that its expenditure in general equals the supply, is pretty obvious, from the fact, that the arrest of respiration, and the consequent cessation of the production of electricity in the system, are so immediately destructive of life. The expenditure in some cases not being proportionate to the supply, or the brain or some portion of it having too attractive a power, may be a cause, in some cases, of insanity—the mental organ or faculty being thus kept in a state of constant or undue excitement. At all events, it would occasion many extravagancies of conduct, and make good the axiom, that when a man is not well engaged, he is sure to be in mischief; for it is clear that mental or bodily action must be in constant operation as long as life exists. And hence, too, the wretchedness of *ennui*, or excitement of the mind without object, experienced by those who are without occupation; or, in the opposite condition of the brain, when the stomach is kept in a constant state of excitement by excess of its occupation and *tit bits*, that the mental organ is not duly excited; making good the passage in Shakspeare, that ‘Fat paunches have lean pates; while dainty bits make rich the ribs, they banter out the wits.’ And in like manner, may idiotism be dependent, in some cases, upon defect in the communication of electrical excitement to the intellectual portion of the brain.”

Thus are made clear, by the theory of Dr. Searle, all the mysteries of the nervous system; and no doubt with this exposition our readers will be satisfied; and excuse us from entering into a more extended notice of the author's new physiological doctrines.

In reference to the pathological views of Dr. Searle, he considers that all disease, or derangements of health, consist intrinsically and virtually in the disorder or derangement of the action of the capillary vessels and the functions they fulfil. The disorder and derangement of these vessels consist in a condition of *congestion*, or passive fullness; or of *irritation*, or preternatural excitement; or of *inflammation*, or extreme excitement.” He assumes “that one or other of these conditions of the capillary or organic vessels is the primordial condition or essence of every disease,”—that one or other of these conditions, “which run into each other by insensible gradations, constitute the disease virtually wherever it may be located.”

Fever our author defines to be "a state of system under more or less preternatural capillary excitement—the condition virtually of irritation, (but of a more general character,) in contradistinction to inflammation, which is the same in kind, but local in character, and augmented in degree."

Dr. Searle conceives that fever "can scarcely be regarded as a disease at any time, but as a curative effort of the system to relieve itself of some oppression or perturbing cause of healthy manifestation."

To understand correctly the author's theory of disease, would require an accurate appreciation of the nature of that condition of the blood-vessels to which he has applied the term irritation—we have, it is true, a section devoted to the consideration of irritation, its nature and cause; but we must confess, that after a careful perusal of all that Dr. Searle has said upon this subject, we are as much in the dark as to what he means by irritation as we were before we saw his exposition.

He defines irritation to be a peculiar condition of the blood-vessels of the part affected, "intermediate between that of the active condition of the arteries in inflammation, and the passive one of congestion of the veins."

To render this theory of fever intelligible, the author presents the pathological phenomena as they occur in a case of intermittent fever—as follows:—

"A person in health travels through a marshy district; he inspires the paludial or malarious exhalation of the marsh, and with this his blood becomes contaminated. He first feels a sense of malaise; he is languid and oppressed, indicating torpor and general depression of the functions of life. The cause is obvious; his blood, the source of all power—and from which heat and electricity are evolved—is deteriorated; less heat and excitement are imparted to the system, and a feeling of cold and weakness is experienced. Every organ is implicated: the heart and circulating powers are debilitated, and in consequence are not equal to the keeping of the blood in free circulation; congestive accumulation in the veins accordingly, progressively takes place, more particularly in those parts of the system in which the circulating powers are most feeble—which, for reasons elsewhere explained, I have shown to be the liver and spleen,—and hence the sense of fullness and oppression experienced in these parts. As the congestion increases, and withdraws a corresponding quantity of blood from the general current in circulation, the pulse becomes progressively small and feeble; and as the sense of cold increases, and extends to the muscular fibre, it often occasions a severe and long-continued shivering. This terminates the stage of congestion; the feeling of cold now gradually being succeeded by the opposite condition of extreme heat—which is to be thus explained—the congestive accumulation in the veins withdraws a corresponding amount of blood from circulation through the lungs; and as absorption from the lungs, as Magendie proved by experiment, takes place in an inverse proportion to the distension of their blood-vessels, a proportionably greater quantity of air (of oxygen) is absorbed, and the combustible or chemical qualities of the blood are accordingly increased. As the congestion in the veins, at the same time, retards the blood in its passage through the arteries, and as those vessels are more highly endowed, or possess vital attributes which the veins do not, (especially in their capillary extremities, which communicate with those of the veins,) the arterial vessels, through their distension, and in consequence of those chemical changes which take place in the composition of the blood becoming effected in them, which are usually effected in the veins, or, at a more advanced stage of its circulation, become excited into preternaturally increased action—the condition of *irritation*, or febrile excitement, which is characterized by increased heat of skin and accelerated pulse, the ordinary symptoms of fever.

"Thus is fever developed; and a beautiful contrivance it assuredly is for the removal of the obstruction in the veins. As this is accomplished, excitement of the arteries diminishes, and perspiration abundantly ensues, to the restoration of the equilibrium of the circulation, and to the relief of the patient from all his unpleasant symptoms. The cause, however, in this case—namely, the blood's deterioration—still existing, the congestive accumulation progressively recurs as in the first instance, and in like manner is succeeded by the excitement of fever, and terminates as before by perspiration. Such attacks, commensurately with the amount of the cause and other circumstances, recur every second, third or

fourth day; the intervals becoming progressively longer, or the attacks shorter, as the patient gets better. Otherwise the attacks become more frequent, and the intermissions less perfect, the excitement of the arteries, in this case, developing inflammation or extreme excitement (a destructive process) in the organs in which congestive accumulation was most considerable, or predisposition of parts, or susceptibility of structure, may have rendered most amenable to its influence."

We have extended our quotations to a greater length than perhaps the merits of the volume before us would seem to warrant. As the author, however, claims for it the character of "a complete system of the science and practice of medicine, and of the philosophy of life and health;" in which "he trusts nothing has been said that is not in principle substantially correct;" and which, furthermore, contains the substance of a previous treatise by Dr. Searle, from which it is more than hinted that Liebig borrowed most of the peculiar doctrines on animal chemistry, in its application to physiology and pathology, that have given to him so much renown—it seemed to us proper that our readers should be placed in possession of so much of the author's views—in his own language—as will enable them to judge how far his pretensions are well founded.

The therapeutical directions of Dr. Searle are far more in accordance with what will be esteemed by the profession generally as sound practice, than we fear his notions of the philosophy of life and disease will be found in accordance with established facts in physiology and pathology; while the major part of the remarks contained in the supplementary chapter, on the means of preserving life and renovating the system when impaired, are particularly judicious and perfectly practicable. Of his advocacy of hydropathy as a means of preventing, if not of curing disease, with which the work closes, we need say but little. The beneficial effects to be derived from the judicious use of water, especially when applied externally as a hygienic as well as therapeutic agent, are perfectly familiar to the members of the medical profession—and the circumstances under which it may be resorted to with the greatest advantage—the temperature at, and the manner in which the water is to be employed in order to obtain from it, in each case, the advantageous results it is adapted to accomplish, were very distinctly and fully laid down in medical works, long before the ridiculous name, hydropathy, and the equally dangerous practices of those who profess to follow its teachings were heard of.

The remarks of Dr. Searle, on this subject, although some of them are unquestionably correct, being directed, not to the profession—who would have been competent to test their accuracy—but to the public at large, are calculated to do much harm, by inducing the ignorant to resort on all occasions to an agent, which, if not employed with great discretion, is calculated rather to impair the health, and to induce disease, than to invigorate the body and ensure the continued and regular play of its several functions.

D. F. C.

ART. XV.—*A Practical Treatise on the Diseases of Children*.—By JAMES MILMAN COLEY, M. D., Member of the Royal College of Physicians in London, &c. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1846: 8vo. pp. 414.

THERE is no remark more trite than that men are prone to mistake their vocation, and a striking example of such a mistake is found in the work before us. A man has had a great deal of "experience," as it is called, and he straightway imagines, and not a few of his friends believe, that he is the fittest person in the world to become a teacher, or to write a book. Neither he nor they take pains to discover whether his experience has been anything more than a passive contact with the external world,—sight, merely, without observation,—or whether his faculties were trained to observing correctly, or his reason so cultivated as to render his inductions and inferences of real value. He is a "practical" man;—"I've seen, and sure I ought to know," is the epitome of his whole medical philosophy; he is fully persuaded of the originality of his own knowledge, and generously proposes to enlighten the world. Now, if he would confine him-

self strictly to what he has observed, or thinks he has, the world would, perhaps, be none the worse for his communication, and might indeed find some good thing in its medley. But when, with no other materials than his "experience," and capital borrowed from others for the occasion, he attempts to build up a scientific structure, he ingloriously, but of necessity fails; and so does Dr. Coley. Forty years "experience" furnished "the practical portions" of his treatise, (which phrase perhaps applies, in this case, to the therapeutical department chiefly;) and the rich volumes of Rilliet and Barthez, and various other systematic works supplied nearly all that is substantial in the rest. We should be sorry to do injustice to Dr. Coley, but his work contains strong indications of its being the advertisement of a provincial physician, who, after having long been the *Magnus Apollo* of his town, has found himself, on removing to London, suddenly shorn of his beams amongst the greater lights, and has put forth this book in order to persuade the unbelieving cockneys into a conviction of his merit. It is to be feared that they will remain incredulous. The author indeed alleges as his motive to publishing, the want of a work comprehending all the diseases of children, and says that he is not aware that any author, British or foreign, has written such an one.

Of English works of this character it is sufficient to cite the last edition of Dr. Underwood's treatise, and amongst our own, those of Eberle, Stewart and particularly that of our townsman, Dr. Condie, published two years ago, and announced in England. Of this work our author makes no mention; but his silence ceases to excite wonder, when it is seen how profoundly ignorant he appears to be of what has been written even by his own countrymen, and published in the medical journals. But, however much a complete treatise on children's diseases may be needed in Great Britain, it is plain that the one under notice does not supply the want, for it has no philosophy in its plan, no logic in its arrangement, and neither ability, correctness, nor good sense in its execution. It would be a waste of time to enter upon an elaborate demonstration of these assertions, but as we feel bound to warn our readers against being imposed on by the fair pretences and complacent assumptions of this publication, we shall cull at random a few of its peculiar beauties, but enough, perhaps, to justify our opinion of its demerits.

No less than twenty-three diseases of the eyes are described, occupying twenty-six pages, and fourteen of the eyelids in *five* pages more. It may be doubted whether any diseases of the eye are peculiar to children, except, perhaps, (and that in a limited sense,) scrofulous, and purulent ophthalmia, or ophthalmu, as Dr. Coley denominates it. One of these affections is called by our author *corneitis*, instead of *keratitis*, although he takes particular pains to inform us that he has introduced "philological remarks" into the work for the purpose of correcting erroneous etymology. But for this affectation of purism the error would not deserve notice.

In the article on induration of the cellular membrane, there is no mention made of that form which depends upon superabundant secretion and hardening of fat instead of serum. The "pathology" of the disease is thus given. "I feel more inclined to ascribe the congestion in the internal organs, on which the extravasation of the serous portion of the blood from the extreme vessels at the periphery of the body, and the want of animal heat, appear to depend, to a *state of congenital enervation in the abdominal, ganglionic nervous system*." If this be not clear, we beg to offer as a pendant "my pathology of cholera," which is thought worthy of especial notice in the introduction. "In the first instance, a sudden suspension of the cutaneous circulation takes place, denoted by a sensation of chilliness and contraction of the skin. This is followed by a corresponding inaction or collapse of the *abdominal ganglionic system, and of the nerves and vessels of the gastric and duodenal mucous membrane*." This is, at the least, as clear as the other; it is also clear that "pathology" is our author's forte, and that great splanchnic ideas possess him chiefly. We had thought this ganglionic doctrine grown too old to be used as a hobby.

The only form of acute laryngitis described, is croup. Of its treatment our author remarks, "from much experience in this disease, I can say, with confidence, that when local bleeding and calomel are employed within a short time

after the inflammation has commenced, a speedy, a certain cure will follow in almost every instance." But in *how short* a time after the commencement of inflammation must this treatment be employed in order to cure? If before signs of false membrane appear, the nature of the disease is uncertain; if after the formation of membrane, it is almost certain that bleeding and calomel will have no such influence as that assigned to them. A physician who did not rely chiefly on emetics in croup, would now be regarded as knowing but little of the treatment of this frightful malady; of that, we mean, which is derived from the collective experience of physicians in all countries.

Our author remarks that he agrees with Marshall Hall as to the nature of spasmodic croup, and yet he actually styles the disease *cerebral* croup, and that too, when Dr. Hall expressly states that "the origin of the disease was erroneously referred to the cerebrum, by the late Dr. J. Clarke." Nevertheless, Dr. Coley asserts that, "according to Dr. Marshall Hall, it may originate in inflammation of the gums, disease of the brain, or derangement in the alimentary canal." Dr. Hall really gives as its principal causes, "1. Dental irritation; 2. Gastric irritation; 3. Intestinal irritation," and combats the idea of its cerebral origin.

Amongst diseases of the urinary organs we have "inflammation of the bladder, or strangury;" and "hydrocele or watery rupture," excluding from the description all cases in which the cavity of the tunica vaginalis communicates with that of the peritoneum, the only ones in which there is the least analogy to a rupture.

One page is devoted to "*muguet* or mucosity." It would probably puzzle our philologist to prove these words synonymous, or to find any admitted etymology for the French term, which, be it added, "mucosity" neither represents nor translates. No notice is taken of the late researches into the history of this affection; none of the treatise of M. Valleix, published eight years ago, and since quoted repeatedly in the British journals. Here, too, a novel discovery is announced, that "the essential difference between this disease and aphtha, to which the slough of the latter has some resemblance, consists in this,—that *muguet* is seated on the *external* surface of the epidermis, while aphtha is found on the *true skin*, beneath the outer cuticle." A secretion of fibrine *upon* the epidermis! the true skin and outer cuticle of a mucous membrane! In the same vein we are told that aphtha is "an inflammation of the true skin, and effusion of lymph under the epidermis." In these two short articles there are no less than four proper names mis-spelled; Call  sen, for Callisen; Buschat, for Breschet; Burzelius, for Berzelius; and Dismelles, for Desruelles.

There is an article on "*sero-enteritis*," which should be *peritonitis*; for the serous tunic no more essentially belongs to the intestine, than does the skin to the head. It would be quite as correct to call an erythema or erysipelas of the scalp, a dermo-kephalitis, as an inflammation of the intestinal peritoneum by the name Dr. Coley applies to it. Of its causes the author remarks: "When not having immigrated from the mucous surface of the bowels, it is occasioned," &c. It would be more satisfactory to be informed when it *does* immigrate from the bowels. There is, perhaps, no example of its following dysentery or enteritis, unless perforation had taken place. But other authors have written that peritonitis does follow mucous inflammations of the bowels, and Dr. Coley, as in duty bound, has copied them. In describing the symptoms of the disease, in the stage of collapse, he says, "*mortification* has now taken place." This new pathological fact is commended to the morbid anatomists.

The description of *coryza* is dispatched in ten lines, and about as much space is devoted to the *modus operandi* of sulphate of copper in curing the complaint, for which, in young horses, as well as in young children, the author regards it as a sovereign remedy. We cannot refuse the reader so delicate a physiological *t  t  *. The copper acts "by restraining the mucous secretion from the follicles of the stomach. By *continuous sympathy*, this astringent operation of the medicine is extended to the Schneiderian membrane, which rapidly reduces its mucous and purulent discharges." In that case, one would suppose a shorter method would be to introduce the substance directly into the nostrils.

The second stage of inflammation of the lung, and its passage into the third stage, are thus described by Dr. Coley. "The transmission of air is obstructed, the cells being loaded with mucus, and the obstructed part *degenerating* into a black,

solid, inelastic, *inorganic* mass. As the pneumony advances, the inanimate vessels allow their *dead* and *grumous* contents to escape into the pulmonary *parenchyma*, where they undergo decomposition, whereby the blood-globules are converted into pus!"

Dr. Coley is a decided advocate of the inflammatory origin of tuberculosis. His theory is simple: 1st, tubercle exists ready formed in the blood of certain persons; 2d, inflammation in such persons must cause a deposit of tubercle. The latter proposition is proved solely by the author's assertion;—the former by analogy and observation. By analogy: "some peculiar elements are contained in the blood of certain persons, which differ from those found in the blood of others," because Barruel "discovered a different smell in the blood of a man whose complexion was fair." And again; our author "once met with a large portion of bony structure deposited in the *parenchyma* of the lungs *by inflammation*." But the proof by observation is unique: "In a young female, strongly predisposed to pulmonary phthisis, *I found tubercular matter blended with the coagulum*, and deposited after venesection." This announcement coming upon us unexpectedly in a Treatise on Practical Medicine is startling enough, and excites surprise that Dr. Coley's discovery had not been earlier proclaimed, nor excited more attention; but when, on the next page but one, is found asserted "the comparative prevalence of pulmonary phthisis, in mountainous situations," it becomes clear that Dr. Coley is of an imaginative turn, and that he does not intend his statements to be taken quite *au pied de la lettre*.

A brief notice is given of pleuralgia (pleurodynia) or stitch, and we are gravely told that it is *not* produced by "a distension of the vessels of the pleura, as is supposed by some writers." In another place it is taught that the muscular coat of the stomach "consists of white, fibrous bands,"—in another, that dilatation is "the most frequent affection of the heart in children," and is "the general termination of hypertrophy;"—and in another, that "the pain (of colic) is sometimes so violent as to exhaust the living principle, *and produce death*."

The author's "pathology" of whooping cough is, that "it is *nothing more* than a bronchial catarrh of a specific character;" its peculiar phenomena depending upon the inflammation reaching the "bifurcation of the bronchi which is the *most sensitive part* of the air passages;" and his treatment of the disorder consists in confining the patient "day and night to a temperature of 65° Fahr." This, according to him, cures it "at the end of six or eight weeks at farthest," which is, in reality, about the average duration of whooping cough when left to itself.

In the introduction, warning is given of "some innovation and perhaps improvement in the pathology of erysipelas, &c.;" the following is perhaps the one but certainly not the other. "Cold appears to operate in producing phlegmonous erysipelas by paralyzing the capillary circulation, and inducing congestion, and ultimately coagulation of the blood"! We are also promised "original views of dentition," and doubtless the following are wholly original. "During the primary dentition it is not uncommon for the bowels to become constipated. This proceeds from the determination of blood towards the alveolar processes, and the consequent enervation of the alimentary canal. It is a most unfortunate mistake to attribute a relaxed state of the bowels to dentition. It is impossible, *upon any sound pathological theory*, to attribute either dysentery or diarrhœa to inflamed gums or alveoli."

In a short account of cyanosis, which our philologer prefers to call "cyania," we have the old story of mixture of arterial and venous blood as the cause of the blueness of the skin, and not even a hint of the views which now prevail. But, as if to furnish a refutation of his error, the author in the same breath adds: "the consequences of this imperfection are accumulation of superfluous carbon in the blood, a condition to a certain extent resembling that of the intra-uterine fœtus." Is it not well known that the skin of the fœtus, before respiration, has no bluish tinge?

We presume that this anthology of Dr. Coley's treatise will satisfy our readers that the estimate of its merit already presented was neither presumptuous nor exaggerated, and that they will agree with us in pronouncing the work to be alike valueless to practitioners for reference, and dangerous to students as a guide.

A. S.

ART. XVI.—*Lectures on Natural and Difficult Parturition.* By EDWARD WILLIAM MURPHY, A. M., M. D.; Professor of Midwifery, University College, London; Obstetric Physician, University College Hospital; and formerly Assistant Physician to the Dublin Lying-in Hospital: 8vo, pp. 281. New York, S. S. & W. Wood, 1846.

THIS is a very excellent treatise on the practice of obstetrics, comprising a clear and accurate description of the pelvis; its measurements and those of the fetal head; of the mechanism of labour; of the management of natural, difficult, and laborious labours; and of obstetric operations generally; with an appendix containing a summary, in the form of aphorisms, of the principles and rules laid down in the thirteen lectures, of which the volume is composed. The several subjects treated of are illustrated as far as practicable by a series of well executed wood cuts.

The style of the author is clear and well adapted to render his descriptions and practical directions easy of comprehension by the student, while the views he inculcates in regard to the mechanism, varieties and management of labour, whether natural or difficult, are in the main sound and calculated to lead to caution and skill in the practice of the obstetric art.

His two lectures on the mechanism of natural labour, are particularly excellent, and render this important subject, without a correct knowledge of which no one can ever become a safe or skillful obstetrician, perfectly plain. A careful perusal of these lectures, by any one who has made himself familiar with the structure, form, and dimensions of the female pelvis and fetal head, cannot fail to communicate exact views of the several stages of labour, and of the relative position of the head in each, enabling the practitioner to judge accurately of the character of the labour in each case, and to detect readily any slight deviation of the head from the most favourable position, and when practicable to rectify it.

The directions laid down in these lectures on the management of natural labour, are likewise judicious. All that is necessary to be done to insure the comfort and safety of the mother, as well as the safe delivery of the child, is pointed out with sufficient minuteness, while every unnecessary interference is pointedly discountenanced.

The author's directions for the management of difficult and laborious cases are in the main equally sound. Caution and patience are strongly inculcated in every case, in which there is no positive evidence of the impossibility of delivery *per vias naturales* without manual or instrumental assistance, or in which delay does not place the life of the mother in imminent danger.

The whole of his remarks on the subject of the vectis and forceps, and the circumstances and period for their employment, are well worthy of a close study by all who are about to engage, as well as of those who have already engaged in obstetric practice; they may, perhaps, be considered by some, as calculated to lead to unnecessary timidity and delay in a resort to instruments. We apprehend, however, that the tendency to be feared is in the opposite extreme, and that the inculcation of great caution and reserve is less calculated to lead to unfortunate results, than allowing the student and young practitioner to suppose that the use of instruments is so far unattended with danger, that they may be resorted to in every case of difficulty, as well as to shorten the duration of a tedious labour. D. F. C.

ART. XVII.—*Adulterations of various Substances used in Medicine and the Arts, with the Means of detecting them; intended as a Manual for the Physician, the Apothecary and the Artisan.* By LEWIS C. BECK, M. D., Professor of Chemistry in Rutgers' College, New Jersey, and in the Albany Medical College; Honorary Member of the Medical Society of the State of New York, &c. New York, 1846: pp. 333, 12mo.

THE object of this work, as stated by the author, is to point out the adulterations of numerous substances employed in medicine and the arts, and to indicate the

most ready and certain methods by which these frauds may be detected. A treatise of this kind has been much wanted in this country, both by the druggist and manufacturer, for heretofore, nothing has been published, as far as we are aware, with the exception of a reprint, some years since, of a popular work by Accum, principally devoted to the subject of adulterations of alimentary substances. It is true, much valuable information is to be found in the standard chemical and pharmaceutical publications of the day, and scattered through the various scientific journals, but this cannot be generally available from the labour and expense attendant on the search for it through numerous volumes, many of which are rare, and difficult of access.

Dr. Beck appears to have carefully collected all that is important, and has presented the information thus obtained from the best authorities, in a clear yet succinct form, so as to enable any one conversant with the general principles of chemistry, to apply it with advantage. The generality of the processes he points out, for the detection of adulterations, are extremely simple, and may be successfully employed by the merest tyro; in some cases, the plans indicated are more complex, and will require a fuller knowledge of chemical actions, on the part of the operator, but these are not numerous, whilst the directions given are extremely clear and definite. As the work is intended for general and popular use, the modes of investigation advised by the author, are calculated rather to point out the nature of the adulterations, and the probable extent of them, than to ascertain with absolute precision the composition of the substance submitted to examination; a task only to be undertaken by the experienced chemist.

The author has added much to the value of his treatise, by giving, in an appendix, full descriptions of the various chemical operations noticed in the body of the work, as well as directions for the preparation of such chemical tests as may be needed, with tables showing the changes and operation of certain re-agents on the more important substances. The work is, altogether, well suited for the purposes for which it was designed, and cannot fail to be extremely useful to all classes of the community, and we trust will act as a check to the knavery and cupidity of the many sophisticators, unfortunately so numerous both here and elsewhere. The baneful practice of adulterating the most important articles employed in medicine and the arts, is far too general, and consequently the most skillfully directed efforts of the physician, the artist or the manufacturer, are constantly rendered nugatory or even injurious from the imperfection and worthlessness of substances they have employed, and which have been passed upon them as genuine and efficient. The only mode of preventing this is, by the diffusion of such a knowledge among the community, as will enable every one readily to detect and expose the fraud, and this can best be accomplished by an extensive circulation of works like the present.

In conclusion, we would, however, remark that Dr. Beck has by no means occupied the whole ground; many substances are omitted by him or merely noticed in a cursory manner, which are of much importance in the arts, and are constantly offered for sale in an adulterated condition. These additions we hope that he will soon be enabled to make in a second edition of his work. R. E. G.

ART. XVIII.—*Chemistry of the Four Seasons; Spring, Summer, Autumn and Winter. An Essay, principally concerning Natural Phenomena, admitting of interpretation by Chemical Science, and illustrating passages of Scripture.* By THOMAS GRIFFITHS, Professor of Chemistry in the Medical College of St. Bartholomew's Hospital; Author of "Recreations in Chemistry and Chemistry of the Four Elements." Philadelphia, Lea & Blanchard, 1846: pp. 451, 12mo.

THIS is an exceedingly pleasant and instructive work, and although intended rather for the general than the scientific student, may be perused by every one with advantage. The author is well known as an able chemist and lecturer, as well as by the production of a popular treatise on the "*Chemistry of the Four Elements*," to which the present may be considered as a sequel. The object of the writer is to explain, in a popular but at the same time clear and perspicuous manner, some

of the principal phenomena of the four seasons, through the medium of chemistry, and to show that in tracing these operations of nature, "there is not so much required any strength of imagination, or exactness of method, or depth of contemplation, as a sincere hand and faithful eye to examine and to record the things themselves as they really appear." The author has not confined himself to a mere explanation of the most striking phenomena of the Four Seasons, but has introduced a variety of other interesting and useful information.

Throughout the work, the experimental illustrations are of the simplest character, and can be performed with apparatus always to be had at a trifling cost, whilst the directions for their performance are given so explicitly that the merest tyro in chemistry may attempt them with a certainty of success. Whenever it could be done, the subject has been treated practically, and the information brought to bear on the every-day concerns of life; as an instance of which may be adduced the remarks on warming apartments, and the numerous errors committed by architects and builders in the construction of fireplaces and furnaces, are clearly and judiciously pointed out. The remarks of the author on warming and ventilation are well deserving of attention, and if attended to, would prevent the many inconveniences and discomforts now complained of during the cold season.

We can most confidently recommend this little work, and feel convinced that no one can rise from a perusal of it, without having gained much useful information, and, to use the words of the author, "seeing that everything is beautiful in its season, that everything displays the power and goodness of God. So that man cannot say, this is worse than that, for in time they shall be approved."

R. E. G.

ART. XIX.—*A Practical Treatise on Ventilation.* By MORRILL WYMAN. Boston, 1846. 18mo. pp. 420.

THE importance of proper ventilation is every day pressing itself upon the more intelligent portions of communities, and the statistics of towns, hospitals, ships and prisons, all tend to corroborate the great truth of our author's motto, "*Plures occidit aer quam gladius.*"

In the last number of this Journal,* we referred to certain branches of the subject, treated of by Mr. Farr, in his letter accompanying the "Fifth annual report of the Registrar General, of births, deaths, and marriages in England." Mr. Farr has described in strong terms—but no stronger than truth justified—the ill effects resulting from impurities of the air, such as halitus from the breath, and perspiration of animals, &c. The mortality of the crowded metropolitan hospitals from gangrene, erysipelas, &c., compared with that of the smaller country hospitals, affords a striking illustration of the absolute necessity of means of ventilation, essential to the preservation of life, to say nothing of the comfort of persons, collected together in circumscribed limits.

The author of the book before us has favoured the public with a highly valuable treatise, embodying those principles and modes of ventilation which have been most successfully applied in Europe as well as in America. He has, in the first place, described the laws and properties of gases generally; especially the law of their diffusion, so important in its influence upon ventilation.

Secondly, the chemical and physical properties of the atmosphere.

Thirdly, the processes by which atmospheric air may become vitiated; particularly the processes of respiration and combustion, and the nature of the gases produced by them.

Fourthly, the means by which impurities, whether chemical or mechanical, may be removed from atmospheric air.

Fifthly, the principles of the movements induced in air by heat, especially those occurring in apartments, and in chimneys.

Sixthly, the moving power best adapted to ventilation, and the quantity and qualities of the air which should be supplied.

* See Am. Journ. of Med. Sciences, for October, 1846, pages 430, etc.

Lastly, the mechanical arrangements best adapted to effect the ventilation of the various structures to which they are applied.

In treating these several topics he has introduced an immense mass of details, collected from the best sources, and what we deem of the greatest importance, filled his pages with illustrative cuts which will greatly aid those who wish to reduce his descriptions to practice.

No one can peruse Mr. Wyman's book without gathering from it much valuable information upon subjects connected with health or comfort and the welfare of those who may be crowded together in situations favouring vitiation of the air.

G. E.

ART. XX.—*New Remedies*. By ROBLEY DUNGLISON, M. D., Professor of the Institutes of Medicine, &c., in the Jefferson Medical College of Philadelphia. Fifth Edition, with extensive additions. *Professe quam conspici*. Philadelphia, Lea and Blanchard: pp. 639, 8vo.

On the appearance of the various editions of this useful work, we have already expressed our opinion of its value to the profession, and have therefore merely to say, that the present one is much improved and enlarged by the addition of numerous notices of the properties and actions of substances of recent introduction into the materia medica, and of novel applications of articles long esteemed for other purposes, and the author is entitled to much praise for the industry and care exerted in the selection of his materials, from the mass of crude and erroneous notices and opinions so plentifully scattered through many of the recent works on the materia medica, and the pages of medical journals. R. E. G.

ART. XXI.—*Special Anatomy and Histology*. By WM. F. HORNER, M. D., Professor of Anatomy in the University of Penn., &c., &c. Seventh Edition, with numerous illustrations. Philadelphia, Lea and Blanchard, 1846: 2 vols., pp. 570 and 551.

THE name of Professor Horner is a sufficient voucher for the fidelity and accuracy of any work on anatomy, but if any further evidence could be required of the value of the present publication, it is afforded by the fact of its having reached a seventh edition. It is altogether unnecessary now to inquire into the particular merits of a work which has been so long before the profession, and is so well known as the present one, but in announcing a new edition it is proper to state that it has undergone several modifications and has been much extended, so as to place it on a level with the existing advanced state of anatomy. The histological portion has been remodeled and rewritten since the last edition; numerous wood cuts have been introduced, and specific references have been introduced throughout the work to the beautiful figures in the "Anatomical Atlas," by Dr. H. H. Smith.

ART. XXII.—*Encyclopedia Americana: Supplementary volume. A Popular Dictionary of Arts, Sciences, Literature, History, Politics and Biography*, vol. xiv. Edited by HENRY VETHAKE, LL.D., Vice Provost and Professor of Mathematics in the University of Pennsylvania, &c., &c. Philadelphia, Lea and Blanchard, 1847. 8vo. pp. 663; double columns.

It would be out of place here to review a work like the present, but we may be doing a service to our readers by announcing to them its publication, embodying as this does an immense fund of information, interesting and useful to every liberally educated person, and which cannot be met with elsewhere in a condensed and connected form.

ART. XXIII.—*Minor Surgery ; or Hints on the Every Day Duties of the Surgeon.* By HENRY H. SMITH, M. D., Lecturer on the Practice of Surgery, &c. Second Edition, with numerous additions. Illustrated by 227 engravings. Philadelphia: Ed. Barrington and Geo. D. Haswell, 1846: pp. 384, 12mo.

MINOR Surgery is a department of the art with which every student should make himself perfectly familiar, for while he probably will seldom, and may never, have an occasion to do the greater operations, the minor ones he will be called on daily to perform. In the imperfect schemes of education, in this country, it does not enter as a part; it is but cursorily noticed in the courses on general surgery in the schools, and few have an opportunity of learning it in the hospitals, where alone, indeed, it can be effectually and thoroughly taught.

A work such as the present is therefore highly useful to the student, and we commend this one to his attention.

It is divided into five parts: the *first* and *second* treat of the preparation and application of dressings and bandages; the *third* and *fourth* are devoted to an account of the various apparatus for fractures and dislocations with the mode of applying them; and the fifth to the minor surgical operations, viz., blood-letting, cutaneous irritation, punctures, operations for arresting hemorrhage, wounds, catheterism, injections, extraction of foreign bodies, &c.

It is illustrated by numerous wood cuts, which if not done in the best style of the art, are at least clear and expressive.

ART. XXIV.—*An Introduction to Entomology ; or, Elements of the Natural History of Insects : comprising an account of noxious and useful insects, of their metamorphoses, food, stratagems, habitations, societies, motions, noises, hybernation, instinct, &c. &c.* With Plates. By WM. KIRBY, M. A., F. R. S., and L. S., and WILLIAM SPENCE, Esq., F. R. S., and L. S. From the Sixth London Edition, which was corrected and considerably enlarged. Philadelphia, Lea and Blanchard, 1846: pp. 600, 8vo.

WE may be excused for turning a little aside from the direct objects of our Journal, in order to invite attention to this charming and instructive volume, inasmuch as, in this utilitarian age, whatever does not manifestly and directly tend to the acquisition of pelf, is almost certain to be overlooked or disregarded. We are among those, however, who believe that there are other pursuits quite as attractive, and more ennobling than the strife for gold, and the study of natural history is certainly among these. Independently of the inexhaustible mine of pleasure it opens, it yields advantages in the discipline it affords to the mind, teaching the ready discrimination of resemblances among diversities, and the quick and accurate perception of diversity in the midst of resemblances, one of the most important operations of the understanding. But we may ask, in the words of Dr. Aiken, "if it be not enough to open a source of copious and cheap amusement, which tends to harmonize the mind, and elevate it to worthy conceptions of nature and its author?—if a greater blessing to man can be offered, than happiness at an easy rate, unalloyed by any debasing mixture?" It is not our desire, however, nor would this be the place, to descant on the beauties and attractions of the study of natural history. All that we desire is to excite attention to the work of Messrs. Kirby and Spence, from the perusal of which no one can rise without receiving instruction and amusement, and at the same time feeling his mind expanded and elevated; the first, and favourite objects of the authors being to direct the attention of their readers "from nature up to nature's God."

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Digestion and Assimilation of Amylaceous and Saccharine Matters.*—The following report on a memoir by M. MIALHE on the above subject has just been furnished to the Parisian Academy of Sciences by a commission, composed of MM. Magendie, Flourens, Milne Edwards, and Payen. The subject itself is of high interest in relation both to the physiology of digestion and the pathology of diabetes and other affections dependent on the mal-assimilation of food: it has attracted considerable notice of late, having engaged the attention of several of the best physiological chemists in France, who have investigated it with their characteristic closeness of research, and have obtained many highly important results.

In the memoir which we have been commissioned to examine, M. Mialhe alluding to the views really admitted in regard to the disintegration of azotized substances in the alimentary canal, observes, that this form of solution is effected by means of an acid and of pepsine,—a phenomenon comparable to the action of diastase upon starch. Although it may be readily conceived also how, under the influence of bile or of some special agent which it may contain, fatty matters may become miscible with water, and thus rendered assimilable, yet we are much less advanced in our knowledge of the reactions which may enable feculent and saccharine matters to take their part in nutrition. This was especially the gap which M. Mialhe proposed to fill up.

Before judging of the results M. Mialhe was enabled to obtain, we have deemed it advisable to complete the history of this important question by collecting together all the facts which have hitherto been published in relation to it. In his "Experiments on Digestion," Spallanzani observed, that in ruminant animals, grass, corn, bread, &c., was not digested unless it had been masticated for a considerable time, and thus freely impregnated with saliva; but he attributed this result to mechanical division. The German edition of the "Archives de Kastner," in 1831, contains a note by Leuch, of which the following is the substance:—"According to Tiedemann and Gmelin, the stomach of a dog, which had eaten starch, contained, besides amylaceous masses, a liquid which was no longer rendered blue by iodine, and which contained sugar as well as gum of starch: sugar was also found in the alimentary canal of a goose which had been fed entirely on starch and water until it died. . . . According to Montègre, the gastric fluid, after vomiting and fasting, resembles saliva. Such were the considerations," says M. Leuch, "which induced me to undertake some investigations concerning the properties of saliva, and its reaction upon starch, gum, &c. Accordingly, some potato-starch was mixed with fresh saliva and warmed; at the end of two hours the mixture was dissolved, very fluid and sensibly saccharine: there remained some amylaceous flakes in it. Wheat-starch, treated in like manner, furnished similar results. The changes which raw starch

underwent were proportioned to the elevation of temperature by which it was rendered soluble; the cooking of farinaceous food, therefore, ought to favour its digestion in the stomach. Saliva *invariably reddened* litmus, but the colour disappeared on exposure to the air, or by the addition of a little ammonia; it did not appear, therefore, that acidity was necessary to this peculiar action of saliva.* Neither sugar of milk, gum, nor gelatine experienced any change from the saliva. On the other hand, none of the animal substances appeared to act on starch; at least, I was unable to convert any portion of it into sugar by means of gelatine, albumen, caseine, fibrine, sponge, extractive matter of boiled white of egg, or the salivary principle (speichelstoff), or by *morilles*.²⁷

One would conclude from the above quotations that Leuch had really discovered the action of saliva on starch hydrated and warmed, and had observed the soluble and saccharine products resulting from it; and that he had regarded the acidity to have no share in this secretion, or rather that he had considered the saliva to be invariably acid, whereas it is only an exceptional occurrence where it is so. He has, however, mentioned nothing about the active principle of saliva, and he supposed that the starch was transformed by saliva, in his experiments, only from its having been first disintegrated by heat.

Sebastian, in confirming entirely the preceding results, has scarcely advanced the question; he has said that the action of saliva did not depend on its alkali, although cooked starch, when mixed with an alkali, does not react upon iodine; (he doubtless was not aware that in this experiment there is no free iodine, since the alkali at once seizes upon it;) but he adds, that acids re-establish the reaction, and that a slight excess of acetic acid does not prevent saliva from transforming starch. Lastly, he recognized that the cause of the phenomenon resides neither in the salts, in the sulphocyanic acid, nor even in the pyaline, whilst that the blue combination of starch is itself decomposed. If this latter effect does take place, it must be due to the alkalinity of the saliva or to the elevation of temperature.

Lehmann arrived at similar conclusions, but he supposed that a combination of proteine observed by Simon in the saliva of the horse was the predisposing cause of the metamorphosis of starch; this hypothesis was only supported by another supposition, that acetic acid prevented the special reaction of saliva, by decomposing the proteine compound; but it is probable that in this experiment the interference with the reaction of the saliva was due mainly to the great excess of acid employed.

Thus, then, the fact of the solution of starch and its conversion into sugar by the action of saliva was well established, but the special agent concerned in producing the phenomena was not discovered.

The facts we have just mentioned are the only ones which have been hitherto admitted on the point; they are, for the most part, noticed by Muller, in his *Manual of Physiology*, who also mentions an observation by Tiedemann and Gmelin, to the effect that the gluten of cerealia was converted into dextrine and sugar during the process of healthy digestion; but it is highly probable that the gluten employed was not pure, and that the starch which it contained had alone undergone the transformations indicated; for without these conditions one could not comprehend how an azotized substance should produce two non-azotized ones.

The numerous experiments of M. Mialhe have quite changed the aspect of the question, by clearing up many doubtful points in the reactions of human saliva, by discovering an active principle concerned in the transformation of amylaceous substances, and, lastly, by showing that this principle presents the greatest analogy to, if not a complete identity with, diastase. It is well known that the power of vegetation develops this principle every time that amylaceous deposits require to be dissolved and to traverse the tissues in order to serve for new organic formations.

In order to study better the action of saliva on starch, M. Mialhe has proved the ultimate transformation of this substance into glucose, as shown by its saccharine

* [Recent investigations render it pretty certain that during health the saliva is invariably alkaline.]

taste, its fermentative property, its becoming brown under the influence of warm alkaline solutions, and lastly its power of reducing the binocide of copper in salts, or the hydrate in the presence of potassa.*

These re-agents furnish their indications with sufficient rapidity to have enabled your commission to verify the principal observations of M. Mialhe; in order to the partial transformation of raw starch, it only required to be kept in contact with saliva for 24 hours, at a constant temperature of 40° Cent. (104° Fah.) The reaction on powdered starch was greater, and took place more rapidly; the transformation was effected very rapidly at a temperature of 45° Cent. (113° Fah.), whether the experiment was performed with simple starch, with the crumbs of ordinary bread, or with unleavened bread; lastly, the conversion into sugar was instantaneous when the amylaceous liquid, filtered warm, was submitted to the influence of saliva. We have been enabled to extract from filtered human saliva the active principle, and to prove its power of action, by following the methods of procedure pointed out by the author. The mode of obtaining this active principle, and the changes effected by it on starch in its different conditions, are so similar to what is observed with regard to the active principle of the cerealia, that the author is desirous of comparing, in all their properties, these agents of the two kingdoms. He has not been able to detect the slightest difference between them; and in extracting from saliva its active principle, with all the precautions indicated in regard to vegetable diastase, he has obtained an animal diastase, endowed with equal energy, capable of dissolving and converting into sugar 2000 times its weight of starch, having also its maximum of action in the presence of water, and at the temperature of from 70° to 80° Cent. (158° to 176° Fah.); like vegetable diastase, also, it was neutral, tasteless, and inert, with regard to all other substances on which its action was tried. The same re-agents which cause the reactive power of vegetable diastase to cease, especially tannin, soluble bases, acids in certain proportions, creasote, and various metallic salts, destroy also the power of animal diastase. Its spontaneous alteration gives rise likewise to an acid production, as does that of vegetable diastase, and like it also its aqueous solution loses its characteristic property by the elevation of its temperature to 100° Cent. (212 Fah.)

A number of other common characters, and similar properties, would also seem to justify the special agent concerned in the solution of the amylaceous principle being considered as identical in the two kingdoms; M. Mialhe, however, has preferred to leave the question undecided. We praise his reserve, because, before the question can be absolutely determined, it will be necessary to compare the elementary composition of the products obtained from these two sources; and it is very difficult to procure, in a perfectly pure state, these substances, which are uncrystalline, and very prone to undergo changes whilst moist. It seems to us, therefore, proper, at present, only to admit with the author, that there is an animal or salivary diastase which acts in a manner precisely similar to that of vegetable diastase, and produces like catalytic effects. However the question be determined, the results which have been obtained will be fruitful in important consequences for the progress of physiology; they throw an evident light amidst the vague and incorrect conclusions of previous observers; thus we shall no longer say, with the authors above quoted, that each of the principles of saliva separately has no action on starch, whilst the reunion of these substances presents an energetic solvent property; it will be found that ptyaline, such as it has been hitherto obtained, has lost its most important quality—in fact, that it does not really exist as such in saliva, but appears to be nothing else than animal diastase altered and become inert. In the sure path on which M. Mialhe has entered there are doubtless many important facts and interesting applications to be gathered; we shall find some examples in the essays since forwarded to the same commission, and in other subsequent communications.

We have further to acquaint the Academy of a second series of observations contained in the Memoir of M. Mialhe; they form a natural sequel to the facts

* In a warm solution of acetate of copper, the reduction is effected by the simple addition of glucose, and acetic acid is then disengaged; but the phenomenon takes place much more readily if a little alkali be added.

we have already noticed. In March 1845, as also in April 1844, the author, in demonstrating what is the principle concerned in the transformation of amylaceous substances and of cellulose into glucose, pointed out one of the principal effects of this transformation. Admitting, first, that the influence of alkalies gives to solutions of glucose the power of reducing biniodide of copper, and then considering that the assimilation of amylaceous and saccharine principles is possible only in the presence of alkalies, M. Mialhe attributed the diabetic affection to defect in the assimilation of sugar, rather than to an increased production of this immediate principle. These new views, in accordance with a large number of previous practical observations, seemed to recommend, (in combination with an animal diet, and the use of the smallest possible quantity of feculent matter,) the employment of alkaline bases, or their carbonates, of magnesia, or even of lime-water. In support of this ingenious hypothesis, M. Mialhe points out how the presence of an alkaline base (already employed by Frommerz) hastens or determines the deoxydizing action of solutions of glucose. An analogous reaction, necessary in order that saccharine matters may take part in nutrition, appeared to him to be checked, in diabetic affections, by a greater or less want of an alkaline base, which would occasion the excretion of a greater or less quantity of glucose, and would correspond to more or less severe forms of the disease. The author noticed, in a functional affection, this deficiency in the alkaline condition of the blood, and that the morbid phenomena returned so soon as the alkaline mode of treatment was discontinued. Examples of cure, or of marked improvement, under the influence of the method indicated, are described by the author, and appear worthy of interest, though they are not sufficiently numerous; all the circumstances of the phenomena, which are in themselves so complex, it has not yet been possible to study in a manner sufficiently precise to remove all doubt on this point. The report concludes by recommending the Academy to engage M. Mialhe to continue his experimental investigations on the theory and treatment of diabetes mellitus.—(*London Med. Gaz.*, May 1846, from *Comptes Rendus*, March 23, 1846.)

2. *Digestion*.—The No. of the *Dublin Quarterly Journal of Med. Science* for August last, contains a very able sketch, by Dr. J. O. CURRAN, of what is novel regarding the physiology of the digestive process, illustrated by such facts, from various sources, as bear immediately on the more disputed points; and the author presents the following as the most correct theory of the process.

"*In the mouth*, albuminous matters are merely divided, so as to facilitate deglutition, and to prepare them for solution in the gastric juice, by exposing a greater surface to the action of that solvent. Fatty matters combine and form an emulsion with a little of the alkali of the saliva, but the amount of change of this kind is quite unimportant. Sugar undergoes no change, being merely dissolved in the water of the saliva. Amylaceous substances are broken up and triturated between the broad crowns of the molars, in order to promote their thorough admixture with the saliva, and to rupture the cortical envelop of the starch grains; the latter effect being much facilitated by the temperature under which mastication is carried on. The saliva, meantime, being poured out in profusion, in consequence of the irritation to which the extremities of the salivary ducts are subjected by the food, by means of a principle analogous to diastase, and under the influence of its own alkalinity, acts chemically on the fecula, converting it into dextrine and glucose, and thereby rendering it soluble. Only part of the starch, however, undergoes this change in the mouth; the rest, mingled with the alimentary bolus, is, after a certain time, collected into a ball, and by the combined action of the tongue and cheeks, is thrown back into the pharynx, when the excito-motor action of the constrictors quickly carries it to the stomach, without its undergoing any farther change.

"*In the stomach*, the presence of the food causes the most intense turgidity of the mucous membrane to take place instantly, during which the acids and certain salts of the blood, together with a solution of a peculiar organic substance, are thrown out by exhibition from the papillæ uncovered by epithelium. By this fluid the albuminous elements of our food are dissolved, and their chemical characters are somewhat changed. Saccharine matters are also, by contact with the mem-

brane, and under the influence of the acids of the stomach, in part converted into lactic acid, and both are absorbed by the veins of the stomach. The fat set free by the solution of the areolar tissue, in which it was confined, and liquefied by the heat, is, by the muscular action of the stomach, conveyed along with the other unchanged alimentary matters into the duodenum.

"*In the small intestine* the bile forms an emulsion with the fluid fat, which emulsion, being absorbed by the lacteals, gives to those vessels their characteristic colour. The pancreatic juice reacts on the starch, and converts it into dextrine and glucose: a portion of these are then farther transformed, by contact with the mucous membrane, into lactic acid, and the branches of the mesenteric veins, ramifying on the intestine, keep absorbing the lactic acid, dextrine, glucose, cane sugar, and the other soluble matters presented to them.

"*Large Intestines.*—In the rest of the alimentary canal the same process of absorption goes on, but the only chemical change which is there effected is the formation of lactic acid from the cane and diabetic sugar which had passed unchanged from the upper part of the tube. The matters taken up by the veins of the stomach and intestines, being conveyed by the vena porta to the liver, the superfluous glucose, and other ingredients, are again returned to the intestines in the bile, to be afresh absorbed, and conveyed to the liver, to go through the same changes, thus giving time for those transformations to be effected in the blood which are necessary to complete assimilation. When more of substances not prepared for entering into the blood is carried to the liver, than that organ is capable of throwing off, the kidneys take on a part of its action, and the glucose or albumen, that has got furtively into the circulation, is excreted along with the urine.

"The above views suggest the following pretty analogies:* *In plants*, starch can only minister to nutrition by being rendered soluble by a ferment (diastase), which is secreted, not in the radicles nor in the shoots, but just where theory tells us it ought to be, close to the germ. In like manner, *in animals* starch cannot be assimilated until it has been similarly acted on, and diastase is found in the mouth and the intestines.

"*Vegetables* cannot appropriate to their support the neutral hydro-carbons until the alkali contained in the soil has transformed these substances into others which are soluble, and chiefly into ulmine. *Animals* also can only apply to the uses of their organism these same substances after they have been acted on by the alkalies of the vital fluid, and ulmine is one of the products of the reaction.

"*In vegetables* the vital fluid, the sap, is always neutral or acid; in healthy *animals* the blood is always alkaline.

"In healthy *vegetables* the sap contains glucose; in healthy *animals* the blood contains no glucose.

"In some *diseased animals* (glucosuria), however, the blood is both acid and contains glucose, and in some *diseased plants*† the sap becomes alkaline, and contains no glucose."

ORGANIC CHEMISTRY.

3. *On the Presence of Sugar in Healthy Blood.*—By M. MAGENDIE. For some years past the attention of chemists has been directed to the remarkable property possessed by certain organic substances, of acting in the manner of ferments on other organic substances—and of transforming them into proximate principles such as glucose, dextrine, sugar of milk, lactic acid, butyric acid, &c. Numerous

* Chiefly from M. Mialhe, but with him not altogether original, the same analogy of some urinary diseases to the normal state in vegetables having been hinted at by Cuvier in his Report on the Progress of Science, 1810.

† The curious experiments of M. E. Fremy are here referred to. If plants be regularly watered with a weak alkaline solution, the glucose is found to disappear entirely from the sap, which then presents an alkaline reaction. See *Comptes Rendus de l'Académie des Sciences*, 8re, 1844, p. 784.

facts of high interest to physiology, especially in relation to the changes undergone by starch during the process of digestion and assimilation, have been latterly furnished by MM. Payen, Bernard and Barreswil, Bouchardat, Mialhe and others. Among these facts, there is one which now seems to be generally admitted as proved, namely, that mixed saliva, the pancreatic fluid, and the gastric fluid, when alkaline, have each the property of converting by *catalysis* (that is, simply by contact) the starchy principles of food into *dextrine*, and then into grape-sugar, or *glucose*. Having been lately engaged in delivering a course of lectures on digestion, Magendie has repeated the greater number of the published experiments performed by the above-mentioned chemists on this subject. Shortly after commencing his researches, Magendie found that the power of effecting these transformations of starch is far from belonging exclusively to the salivary, pancreatic and gastric secretions, for he discovered that it was possessed by all the animal fluids which he examined: as the bile, acid urine, the seminal fluid, &c. Moreover, on applying to the different animal tissues and organs the process practised by Bouchardat and Sandras with the pancreas, namely, digesting them separately in water at a temperature of 40° Cent. (104° F.) he found that the filtered fluid, when kept at this temperature, exerted a decided transforming action on starch placed in it. He tried in this way portions of brain, heart, lung, liver, kidney, spleen, muscle, membrane, &c. &c., and observed that they effected the transformation with different degrees of energy and rapidity; yet as to the fact of their transforming power there could be no doubt. Among the various animal fluids which he found to act on starch, serum of the blood was one. On mixing a portion of starch with fresh serum at a temperature of 104° F., he found that in a few moments this substance could no longer be detected by its ordinary tests, and at the end of about a quarter of an hour the mixture quite manifestly contained sugar, and an insipid mucilaginous substance which was converted into sugar by the action of acids and by alkalies, and which was nothing else than dextrine. Blood itself, immediately after being withdrawn from a vein, possesses the same transforming power over starch: if to 200 grammes of blood 5 grammes of starch, boiled in 100 grammes of water, be added, the transformation will be found complete at the end of about four hours, and not a trace of starch will be detected in the liquid when deprived of its fibrine, globules, and albumen, whilst the presence of dextrine and glucose in it will be quite evident, and both substances may be easily extracted.

Having obtained such results, it appeared to Magendie that it would be interesting to find out whether the blood during its circulation in the living animal possesses the same property of thus acting on starch. In order to ascertain this, he injected a certain quantity of starch-paste into the jugular of a rabbit, which (for reasons presently to be mentioned) had been kept fasting for three days. The blood of the animal was examined previous to the injection, and presented not a trace of sugar. It was examined again immediately after, and not any of the starch which had been poured into it could be detected, by means of iodine; but in place of it there was certain evidence of the existence of sugar. The blood was now analyzed from hour to hour, and the quantity of glucose (or grape-sugar) was found to increase progressively for about five hours; after which it gradually diminished, and had disappeared entirely at the end of seven hours after the introduction of the starch into the veins.*

This experiment, which proves the power of the blood to produce, and probably also to destroy glucose, has been repeated, with like results, on dogs. It was also performed on horses, but generally produced such severe disturbance in the circulation, often occasioning death, that no sure result could be obtained: even the introduction of a small quantity of milk into the veins of a horse almost invariably causes death.

MM. Bernard and Barreswil have recently found that after herbivorous animals have fasted for some time, the composition of their urine is exactly similar to that

* In order to detect the presence of sugar, Magendie states that the blood is to be received into boiling water, which separates and coagulates the albumen and serum, and takes up the soluble principles: the liquid is then filtered, rendered neutral by a few drops of acid, evaporated, and treated with alcohol, &c.

of the urine of carnivora. Acquainted with this fact, Magendie kept fasting for three days the rabbit into whose veins he was going to inject the starch. At the time of the experiment its urine was in consequence acid, limpid, and loaded with urea. When examined a few moments after the injection, it was highly interesting to observe that it had undergone a complete change, having resumed in this short time the character common to the healthy urine of rabbit,—being alkaline, turbid, and containing no perceptible quantity of urea. This result, which was several times verified on rabbits and horses, is one of considerable interest, and tends to prove still more clearly the close connection which evidently exists between the composition of the blood and that of the urine.

The introduction of starch into the blood by means of injection, being, however, an unnatural proceeding, it became desirable to ascertain whether, when taken into the circulation during the ordinary process of digestion, starch undergoes conversion into sugar. To determine this point, a dog was fed for several days exclusively on cooked potatoes, mixed with a small quantity of lard. As soon as its urine became turbid, alkaline, and devoid of urea, some blood was drawn and examined. It was found to possess a notable proportion of glucose, and a quantity of another principle, soluble in water, insoluble in alcohol, and presenting the other characters of dextrine. The urine of this dog, however, contained no sugar; a fact which is important in relation to the etiology of diabetes, inasmuch as it shows that sugar may exist in the blood, yet without being found in the urine. This circumstance was noticed by MM. Bernard and Barreswil on introducing glucose directly into the circulation: the same observers found, however, that when cane-sugar was introduced into the veins, it very shortly appeared in the urine. In the blood of horses fed exclusively on oats, Magendie found both dextrine and sugar, although the urine was acid, clear, and contained urea. He has not yet made the experiment on man, but he considers it tolerably certain that during the digestion of amylaceous principles of food, sugar will be naturally present in human blood. There is reason, therefore, to suppose, that, although found in the blood of diabetic patients, it may also occur in the blood of perfectly healthy persons, as a natural consequence of the digestion and absorption of starch.* The following experiment may serve to show how the applications of chemistry to physiology may still further throw light on some of the mysteries of the blood. If into the veins of an herbivorous animal whose urine is alkaline, turbid, and almost devoid of urea, a certain quantity of recently prepared meat-broth be injected, the urine will in a very few moments assume the character peculiar to the urine of animals feeding on animal food: that is to say, it will become limpid, acid, and loaded with urea. May one not conclude from such an experiment, that the presence of urea in the urine is dependent on the composition of the blood, and that the origin of this substance is not always the one usually attributed to it?—*Comptes Rendus*, 27th July, 1846.

4. *Character of the Blood in Malignant Affections of the Uterus.*—It has long been a matter of uncertainty whether in cancerous disease the blood undergoes a peculiar and constant change in its composition or its quality. The subject is one of considerable importance, and has latterly engaged the attention of Heller, who has examined carefully both the chemical composition and the microscopical characters of this fluid, in persons affected with carcinomatous diseases. It has been recently stated by Engel that the blood in cancer undergoes a pathological change

* To prove that the digestion of starch may occur quite independently of being acted on by the pancreatic fluid, Magendie had the pancreatic ducts in a pigeon destroyed, and after six weeks had the bird killed in such a way that its blood was all preserved. Previous to its death it was fed on grain, and was in good condition. The blood was found to contain a notable quantity of sugar. The pancreas was in great measure atrophied, and its ducts did not communicate with the intestine. This result seems singular, for one would suppose that a bird deprived of its salivary glands and pancreas would not be able to digest starch; it is proved, however, by the above experiments that bile also acts upon starch, and that when absorbed and carried into the circulation it soon becomes transformed.

which consists chiefly in the development of an excessive quantity of albumen, whilst in tuberculous diseases the fibrine is the element which is in excess both in the blood and in the morbid material poured out. This statement, however, is in the opinion of Heller merely hypothetical, and is based on evidence furnished by no direct chemical analysis, which alone can determine the question. Heller therefore took advantage of several cases of malignant affection of the uterus and vagina, which fell under his notice, and he examined carefully the blood passed by flooding, as also portions drawn directly from the arm. Omitting the particulars of the various cases, the general results only to which his researches led him need be here stated.

His microscopical examination of the blood proved the following chief points: 1st. That the blood corpuscles in cancerous disease always present a great variety in their size, some of them being smaller than natural, and others considerably above the average size; some are even three times larger than ordinary. The smaller ones are usually finely indented, granulated, or mulberry-like; the larger ones invariably smooth. This variety in size of the blood corpuscles, though always present in the blood in cancerous disease, is not peculiar to this kind of blood, for it also occurs in blood which contains pus. 2. That when blood is examined according to the method employed for the detection of pus in it, peculiar cells may be found in it, which correspond in form and other peculiarities to the ordinary cells of cancer. This is a fact which had not been hitherto made out, but about which there is now no doubt. 3. That in addition to the above peculiarities, there are observed by the microscope minute bodies of a more or less crystalline form, and possessed of a bright golden-yellow metallic lustre, which are most distinctly seen on darkening the field of the microscope. When viewed by transmitted light they appear in part colourless or yellowish, and in part of a bluish tint, showing a play of colours. These peculiar glittering particles may in most cases be distinguished with the naked eye after the blood has coagulated, appearing either as golden pellicles in the clot, or as glittering particles floating in the serum.

The chemical analysis of the blood furnished results equally decided in their nature. In the first place there was observed a constant, absolute, and relative increase in the quantity of *fibrine*, both in the hemorrhagic blood as well as in that withdrawn by venesection. The quantity of fibrine varied, and this variety was most marked in the hemorrhagic blood; sometimes in this latter the quantity amounted to as much as 13.42 parts in 1000: in one case even to 16.44 parts. In the blood drawn from a vein the quantity was always above natural, yet seldom greatly exceeded three parts in 1000. On comparing the quantity of fibrine in the blood discharged by hemorrhage from the uterus with that in the blood drawn by venesection, it would seem as if nature was endeavoring to get rid of a portion of excessively fibrinated blood by a spontaneous discharge from the uterus of blood loaded with fibrine. The *albumen* was present in its normal quantity, or if anything rather below it, so that there are no grounds for regarding the cancerous diathesis as an albuminous one, or for considering the cancerous material as composed of albumen. The quantity of *blood corpuscles* was always very small, both in the hemorrhagic blood as well as in that drawn from a vein. Sometimes the diminution of corpuscles was so great that complete anæmia of the body was found after death.

The view, therefore, that the cancerous diathesis is an albuminous one, and therefore opposed to the tuberculous diathesis, which is a fibrinous one, is completely erroneous, for the quantity of fibrine in the blood in cancerous affections is always in excess, and the diathesis therefore in such cases should be regarded as a fibrinous one, just as it is in tuberculous disease, where also an excess of fibrine (together with a diminution of red corpuscles), prevails in the blood.

This is another argument against the view of antagonism, which has been stated, though without good foundation, to exist between the cancerous and tuberculous diathesis.—*Lond. Med. Gaz.*, from *Heller's Archiv.*, 1846.

5. *Analysis of the Urine, Blood, Fæces and Vomited Matters in Cholera Sporadica.* By DR. HELLER.—A case of sporadic cholera, which proved fatal, having come

under the notice of Heller, a careful examination was made by him of the blood and of the several excretions voided during life. The results of this examination are of considerable interest, inasmuch as hitherto but few, and these not very satisfactory, analyses of the various animal fluids in this disease have been published. The patient was a robust man, 30 years of age; he was attacked suddenly with severe and continued vomiting and excessive diarrhœa, which continued until his death, on the fourth day from the commencement of the disease.

The quantity of *urine* secreted was exceedingly small—not more than half an ounce in twenty hours. It was examined three different times, and the results of each analysis were the same. It was of a deep golden-yellow colour, and possessed a faint but very peculiar odour. When voided, it was tolerably clear, but shortly deposited a small quantity of flocculent mucus, and a fine sediment of earthy phosphates. It had a strong acid reaction; specific gravity 1018. The addition of nitric acid detected a large quantity of a peculiar animal matter, to which the deep colour of the urine was obviously due. When first the acid was dropped in, an intense violet-red colour was produced; this, on shaking, was changed to a dark carmine-red, and then to a dark violet, which remained. When a large quantity of acid was added, the colour assumed was a dark brown, which was permanent. These peculiar changes in colour produced by nitric acid were probably due to the presence of altered bile-pigment in the urine. Had the pigment been ordinary biliphœin, a green instead of a red colour would at once have been struck on the addition of the acid. Another effect produced by nitric acid was the evolution of a large quantity of gaseous carbonic acid. No albumen was detected. The addition of ammonia caused an almost entire disappearance of the earthy phosphates, and changed the golden yellow colour of the fluid to a brownish red.* The addition of a salt of silver to the acidulated urine showed that almost all the chlorides had disappeared. When the same salt was added to the non-acidulated urine, a precipitate was formed, which was soluble in nitric acid with an abundant evolution of carbonic acid gas. A salt of baryta detected very little of the sulphates, but also gave rise to an abundant disengagement of carbonic acid. On boiling, all the carbonic acid disappeared; which proved that the acid existed free in the urine, and that it was in all probability the chief cause of its high acidity. 1000 parts of the urine contained 955·67 parts of water, and 44·33 parts of solid constituents. Of the latter, 10·50 consisted of urea (12·8 being the average quantity in health), about 0·10 of uric acid, 27·32 of extractive matters, together with a large quantity of the peculiar animal substances above described, and which most probably originated from bile, 6·41 of fixed salts, which consisted in great part of phosphate of soda and sulphate of potash. With regard to the uric acid, it should be remarked that the crystals of it thrown down by the addition of hydrochloric acid had a square form, and were of a beautiful deep blue colour. When viewed by reflected light, these crystals presented a brilliant violet-red colour, with a metallic lustre, like that of titanium; by transmitted light, they appeared of a beautiful blue colour throughout, and formed a fine layer over the violet-coloured urine. This peculiarity of the uric acid crystals obviously resulted from their being combined with the pigment above described. For, in addition to the previously mentioned reasons for regarding this pigment as somewhat different to ordinary biliphœin, and as probably a modification of it, it may be stated that the crystal of uric acid, deposited through the action of hydrochloric acid from urine containing even a very large quantity of biliphœin, as in cases of intense jaundice, are never blue, but always yellow. The almost complete absence of chlorides from the urine is also very remarkable, since these, especially chloride of sodium, appear to fulfil an important part in the system. Lastly, the large quantity of free carbonic acid contained in the urine is a highly curious circumstance; true, it is often found largely in the urine, in combination with ammonia, but it is then a product of the decomposition of urea, and is coincident with an alkaline condition of the urine; but in this case there was no carbonate of ammonia present, and the urine possessed a highly acid reaction.

The blood which served for analysis was obtained from the carotid artery after

* Vide Medical Gazette. New Series. Vol. i. p. 1089.

death. It was generally fluid, though coagula were found here and there in the blood-vessels, and especially in the cavities of the heart. It was very dark, yet strongly coloured and of a tolerably thick consistence. The quantity of fibrine was very small. Beneath the microscope the blood corpuscles appeared indented, and many fat globules were observed. The serum, after the subsidence of the red corpuscles, was of a dark-yellow colour, and an alkaline reaction. It contained a full quantity of albumen, but not a trace of biliphœin could be detected. The quantity of fat was large; that obtained by ether and alcohol was perfectly saponifiable, and contained no cholesterine. When examined for urea by Simon's process, it was found to contain a very large quantity of this substance. This was manifestly the result of the great suppression of urine. The proportion of fixed salts in the blood was much increased, especially the quantities of the chlorides of sodium and of potassium, which were absent in so marked a degree from the urine. A similar circumstance was noticed by Phœbus.

The fecal evacuations, which were very abundant and frequent, were watery, and of a turbid whitish, gruel-like appearance; the fecal odour was but seldom perceived. They had an alkaline reaction, and contained albumen. By nitric acid their colour was changed to a deep brownish-red, which passed into violet, exactly resembling, therefore, the changes produced in the urine by the same reagent; ammonia also produced here the same dark brown-red colour as it did in the urine. The same peculiar substance, therefore, which was found in the urine, and regarded as altered bile-pigment, was present also in the fecal evacuations. Simon, also (as well as others), mentions this peculiarity of the bile in the feces of cholera, being frequently coloured red instead of green by nitric acid.* Crystals of ammonia and phosphate of magnesia were also found in the fecal evacuations in this case.

The matters vomited during the progress of the disease were very watery and of a greenish or yellowish-green colour, and had a slightly acid or neutral reaction. Bile was the most essential ingredient, and it reacted towards nitric acid as ordinary biliphœin would, the first change in colour produced by the acid being green.

In conclusion, it would seem as if in this disease a peculiar change or decomposition was undergone by the bile, and it would be important to ascertain whether a similar alteration of this fluid takes place in other cases.†—*Lond. Med. Gaz.*, Aug. 1846, from *Heller's Archiv*.

6. *On the presence of large quantities of Fat in the Blood.* By DR. HELLER.—In a state of health, no free fat, in the form of fat globules, can be detected by the microscope in human blood; for the chief part of this ingredient, with the exception of cholesterine and seroline, exists in a saponified state. Inasmuch as chyle, however, after complete digestion, contains a considerable quantity of unsaponified fat, it follows that the free fat absorbed into the blood from this source must, during the metamorphosis which the blood undergoes, be converted into fatty acids. When, however, an inflammatory or other serious affection attacks any of the organs, which are largely concerned in the various metamorphoses which the blood undergoes, and the cells of which contain a considerable quantity of fat, as, for example, the liver, the kidneys, the lungs and the peritoneum, then much unsaponified fat may be found in the blood, and the serum has, in consequence, a more or less opaque milky aspect. This fat usually occurs as an emulsion, combined with albumen; and its peculiar appearance beneath the microscope, as well as its chemical characters, shows that the fat is neither saponified nor exists as an acid, nor even as free fat. The existence of milky serum in the blood has been noticed by Marcet in diabetes, by Trail in hepatitis, and by Christison in dropsy. The subject of the case which furnished the following observations was a robust, though not very corpulent, middle-aged man, who was admitted into the hospital for an attack of peritonitis. He was bled by venesection to about five ounces. The blood, when drawn, was of a tolerably bright-red colour, and sepa-

* Animal Chemistry, Dr. Day's Translation, vol. ii., p. 383.

† In a note, Heller mentions having subsequently met with a case of *Morbus Brightii* and peritonitis, in which the same altered bile-pigment, as above described, was found in the urine.

rated perfectly into clot and serum. No inflammatory crust formed on the coagulum, which was of its ordinary colour; yet, on the surface of it, there appeared several roundish depressions, about the size of peas, which seemed as though they were caused by the separation of fat from the clot. When the milky serum was decanted off, these little hollows remained filled with a portion of it, and gave to the whole clot a very singular appearance. The clot offered nothing peculiar when examined beneath the microscope. The serum was quite as white and opaque as milk, and remained so, after standing for a considerable time. It deposited nothing beyond a few blood-corpuscles. Its reaction was alkaline; specific gravity 1024.35. Examined beneath the microscope, the objects seen in it were: (a) a few groups of round transparent annular-looking globules, smaller than blood-corpuscles, yet quite different from ordinary fat-drops; (b), globules of the same kind, but larger, and occurring both singly and in pairs; (c), a few floating blood-corpuscles; (d), a fine granular matter; and (e), a very few large and opaque drops of fat. When a portion of serum was dried on the glass, and then redissolved in water, the annular-looking globules reappeared in still larger quantity and distinctness; the fat-globules also reappeared, but not the granular matter. When the serum was treated with ammonia, the globules arranged themselves in larger-sized groups, whilst the fluid in which they floated still remained turbid. Ammonia, therefore, had no saponifying effect. On the addition of acetic acid to the serum, its turbidity disappeared, the globules became clearer, and, on the addition of ammonia to them now, they became saponified. The application of heat caused the globules to become larger and less round. It appears, therefore, from the above results, that the annular-looking globules consisted of a kind of emulsion, composed of albumen and fat: and this view is confirmed by the subsequent chemical analysis, which showed the existence of an enormous quantity of fat, together with a much larger amount of albumen than usual. To the presence of these opaque globules composing the emulsion was the milky appearance of the serum therefore entirely due. 1000 parts of the serum consisted of 829.515 parts of water, and 170.485 of solid constituents, of which latter no less than 50.473 parts were fat (the average quantity of fat, in 1000 parts of healthy blood, seldom exceeding 2.5;) of the remaining solid constituents of the serum, albumen formed 108.791 parts, extractive matters and salts 11.221. The fat was obtained by repeated boilings in ether. It was perfectly saponifiable, and contained not a trace of cholesterine. There was about double the ordinary quantity of fibrine in the blood, whilst the corpuscles were considerably diminished in quantity. At a subsequent period, another venesection was performed, when the blood was found to have approached nearer to its ordinary condition.—*London Med. Gaz.*, Sept. 1846., from *Heller's Archiv*.

7. *On the Formation of Fat in the Animal Body*.—The following fact, related by M. Köss, is valuable, when taken in conjunction with the recent discussions which have been held in relation to the formation of fat in the animal economy. A workman was killed on a railroad, just after partaking of a full meal, consisting entirely of bread and grapes. His body was subsequently examined. The process of chymification was found in full activity, and at those portions of the small intestines which the chyme had reached, the mucous membrane was found dotted with white points, which, on closer examination, were seen to depend on the presence of drops of oil in the epithelial cells surrounding the extremities of the villi. Here is an example of the abundant formation of fat from substances which, at the most, could contain but a very small quantity of fatty elements, being composed almost entirely of gluten, starch and sugar.—*Lond. Med. Gaz.*, Oct., 1846, from *Encyclop. des Sc. Méd.*, March, 1846.

8. *Composition of Croup Membrane*.—DR. SEITZ mentions having examined beneath the microscope a portion of the false membrane lining the larynx and trachea, of a child which died of croup. The membrane was about half a line in thickness, and of slight consistence. It was composed almost entirely of ordinary pus-globules, mixed with which were a few inflammation-globules, and some other cells exactly similar to pus-globules, except in being at least as large again.—*Ibid.*, Sept., from *Heller's Archives*.

MATERIA MEDICA AND PHARMACY.

9. *Mode of preparing Tannate of Iron.*—M. V. GADDI gives the following mode of preparing the tannate of iron:—A very pure sulphate of iron is made by the action of dilute sulphuric acid on iron filings; from this sulphate, by means of carbonate of soda, a carbonate of iron is precipitated, which is washed several times, and then dried on the stove. It is now pulverized and thrown by small portions at a time into a boiling solution of very pure tannic acid in a porcelain vessel—the proportions used being very nearly five parts of the carbonate to one of the acid—or 440 parts of the carbonate to 90 of the tannic acid. The fluid is to be stirred constantly till the effervescence ceases. It is afterwards exposed to a heat equal to the boiling point of water, till it acquires the consistence of thick soup. It is then withdrawn from the fire and poured on porcelain plates, and dried with the assistance of heat. The tannate of iron thus obtained is of a crimson colour, insipid, insoluble, uncrystallized, though before being dried it appears in long needles. It may be administered either suspended in syrup, or still more conveniently in the form of pills. The dose is from eight to thirty grains a day. It acts more rapidly in persons of sanguine temperament.—*Monthly Jour. Med. Sc.*, Nov. 1846, from *Bulletino delle Scienze Mediche*.

10. *Effect of Matico-leaf in a case of obstinate Hemorrhage.*—The patient was a boy between four and five years old, who, in falling, had bit his tongue, the consequence of which was an oozing of blood which, when the child was brought to Mr. HAMILTON, had continued for two days, to the great alarm of his family, as his brother had died from hemorrhage occasioned by a slight injury of the nose, and the boy himself had before nearly bled to death from some slight wound about the mouth. Actual cautery first, and then a ligature, applied by means of a sewing-needle, had each but a temporary effect, and finally the hemorrhage was stopped by persuading the child to keep sucking a piece of alum for an hour or two. It was long before the child recovered his strength.

The child was brought a second time to Mr. Hamilton, having again bit his tongue three days before, during which time a continual oozing of blood had gone on, causing a perfectly blanched appearance, notwithstanding that nitrate of silver had been applied, and a piece of alum had been sucked as before. After in vain trying pressure, Mr. Hamilton took a piece of matico-leaf (*piper angustifolium*) and applied the lower surface to the bleeding point, and retaining it there as long as the child would keep the tongue quiet, which was not half a minute. He then found that the blood had ceased to flow, and that the small spangle of matico-leaf adhered to the tongue. It fell off in half an hour, when there was scarcely any appearance of bleeding; a second piece was applied, and the hemorrhage completely stopped.—*Monthly Jour. Med. Sci.*, Nov., from *Dublin Hospital Gaz.*

11. *Ergotine as a Hæmostatic.*—On the occasion of M. Bonjean's presenting the French Academy of Sciences with an account of an additional experiment he has made with *Ergotine*, in which the bleeding from the carotid of a horse, divided through a third of its circumference, was at once arrested by the application of ergotine, M. VELPEAU delivered the following sensible and pertinent observations:—

“What M. Bonjean says of ergotine has been said by an infinity of other persons concerning different substances. Hæmostatic means of a *real* efficacy are nevertheless as rare as ever. The error arises from these authors having forgotten two things in their experiments. 1. In animals, the plasticity of the blood is much greater than in man, whence it follows that means which will arrest hemorrhage in the one, may easily fail to do so in the other. All those who have made experiments on living animals know that, in the horse, the ox, the sheep, for example, the largest wounds of arteries rarely give rise to mortal hemorrhage. The blood, ceasing to flow almost of its own accord, leads the public and inexperienced authors to believe that it is the *means* or *remedy* employed which has closed the artery. Thus, what powders, waters, liquids, what arcana of every kind, have been vaunted at first as infallible; and then, after a searching exami-

nation, rejected as useless? 2. In man, many arterial hemorrhages also cease either spontaneously or under the exertion of mere compression, without our being obliged to have recourse to the ligature; so that it is easy to attribute to a pretended hæmostatic substance a result which takes place quite independently of its employment.

"I have neither cause nor desire to throw any doubt upon the value of M. Bonjean's experiments: but practice has been so often deceived by similar announcements, that it behooves the Academy to accept them with due reserve. I must add, that the practitioners who have tried *ergotine* or the *ergot of rye* have as yet derived nothing conclusive from its use. When, in *uterine hemorrhage*, the ergot proves useful, it does so by inducing contraction of the uterus, and not by any special action it exerts on the blood or on the arteries. Thus we see the question of surgical hæmostatics is at once a very complex and a delicate one; and we should not receive facts concerning it without a certain degree of distrust, and only give them a very limited publicity, until they have been tested by a more mature examination."—*Med. Chirurg. Rev.*, Oct., from *Comptes Rendus*, 6th July, 1846.

12. *Modus operandi of Opium in the treatment of hemorrhage.*—By Dr. W. GRIFFIN.—"Of all the wonderful influences exerted by opium, that by which it sustains the powers of life when sinking from hemorrhage, and arrests the flow of blood, is the most extraordinary. When after severe uterine hemorrhage, the countenance is sunk, the eye glassy and hollow, the lips blanched, the skin cold, and the whole person corpse-like, when the pulse is almost gone at the wrist, when every beat of the heart is scarcely perceptible, and stimulants, even brandy or rectified spirits, are either vomited or uninfluential, there remains yet one remedy capable of restoring the patient to life, and that is opium. I believe its power of saving life under these circumstances depends principally on its specific property of producing congestion in the brain. That amount of congestion by which it occasions apoplexy, when given in large doses to persons in health, seems only sufficient to sustain the necessary tension of the cerebral vessels in those who are dying from hemorrhage. Persons die in cases of hemorrhage, not so much from mere debility of the heart's action, as from the loss of nervous powers in the brain consequent to it. The opium in such cases not only stimulates the heart's action, but restores a sufficient degree of tension to the vessels of the brain to prevent faintness; and, by the judicious repetition of the remedy, life is preserved on the very borders of death. There are no cases in which opium can be given so freely and so fearlessly as in these. When the danger is imminent, five grains may be given at the first dose, and two or three every hour or half hour afterwards, until the pulse becomes distinct, the breathing easier, and the tossing about in the bed is allayed. It is hardly necessary to observe, that in such cases, in conjunction with the use of opium, the administration of warm wine or brandy, with heat to the extremities, is highly useful, if not essential."—*Medical and Physical Problems*.

13. *Castor Oil—Substitute for.*—The mildness and certainty of operation of castor oil give it peculiar advantages in the treatment of many diseases; but very often its tendency to produce vomiting prevents it from being employed. To remedy this inconvenience, M. PAROLA proposes the substitution of an extract, an ethereal, and an alcoholic tincture of castor-oil seeds, for the oil itself. The result of his experiments on himself and on numerous sick and convalescent individuals is as follows:—1st. That the ethereal and alcoholic tinctures have a purgative action four times as strong as the oil obtained by expression, and that they are not so apt to produce vomiting, nor so irritant as the ordinary oil. 2d. That these new preparations remain unalterable for a long period without reference to climate or season. 3d. That the ethero-alcoholic extract possesses a purgative action comparatively weaker than the marc or pulp from which it is extracted, proving that the seeds contain a principle which is insoluble in alcohol or ether. 4th. The advantage of the new preparations, so far as relates to their not causing vomiting, is easily explained by the smallness of the dose in which they are administered.—*Gazette Médicale de Paris*, Feb. 7th, 1846.

14. *Formula for administration of Castor Oil.*—M. RICHINI has directed much consideration to the devising of a formula for prescribing castor oil, and the following form, in which the purgative properties are not in the least diminished, he states to be free from the usual inconveniences of a dose of this medicine:—Take of finely powdered gum Arabic, $\mathfrak{z}\text{ii}$; pure water, $\mathfrak{z}\text{iii}$; make a mucilage with a small quantity of the water, and then add of castor oil $\mathfrak{z}\text{i}$; mix carefully, and afterwards pour in, while agitating the mixture, the rest of the water; finally add, with constant agitation, the filtered juice of one orange, and one ounce of simple syrup. —*Neligan's Report in Dublin Quarterly Journal*, May, 1846, from *Journ. de Chimie Med.*, Jan. 1846.

15. *Carragheen Moss.*—Dr. FRANK, of Wolfenbuettel, employs a compound powder of Irish moss as an article of diet for phthisical patients, and for children affected with *tabes mesenterica*. It is prepared as follows, and has a most agreeable taste:—Take of Carragheen moss, cleaned, $\mathfrak{z}\text{ss}$; spring-water, $\mathfrak{z}\text{xvi}$; boil down to one-half; strain with expression; and add to the strained liquor, white sugar, $\mathfrak{z}\text{iv}$; gum Arabic, in powder, $\mathfrak{z}\text{i}$; and powdered orris-root, $\mathfrak{z}\text{ss}$; heat to dryness with a gentle temperature, stirring constantly, so as to obtain a pulverulent mass, to which three ounces of arrowroot are to be added with trituration. A jelly is prepared with this powder, by rubbing up a teaspoonful of it with a little cold water, and then pouring a cupful of boiling water on it.—*Ibid.*, from *Ibid.*, Sept. 1845.

16. *Iron.*—The combinations of this metal with the vegetable acids have been much employed in medicine of late years, and many practitioners prefer them to the older preparations—the sulphate and muriate. BOUCHARDAT has recently laid down the two following propositions with reference to the forms in which iron should be prescribed. 1st. That it should be either in the state of protoxide or in that of the pure metal, which is converted in the stomach into a salt of the protoxide; and 2d, that the protoxide should be united to carbonic, or to some other organic acid which is capable of being assimilated. In compliance with these propositions, the best preparations of iron are, amongst the insoluble, iron reduced by hydrogen and the carbonate of the protoxide; and amongst the soluble compounds, the lactate and citrate of the protoxide. The three latter are at present very generally prescribed in this country, and consequently ordinarily to be met with in apothecaries' shops; but the use of the former is as yet confined to the Continent, where it is held in high esteem. The employment in medicine of iron reduced to the state of minute division, by means of hydrogen, is due to the observations of MM. Quevenne and Miquelard. To obtain it, a certain quantity of black oxide of iron (*Æthiops martis*) is introduced into a tube of porcelain, which is heated to redness; and a current of hydrogen gas is then passed over it until it is reduced, which ordinarily occurs in from seven to eight hours. The chief circumstance to be attended to, during the operation, is the state of the temperature. If it be not sufficiently high, the reduction does not take place; and if it be too high, the iron is reduced, but is agglutinated into ductile plates. For preparing it on the large scale, a metal water-pipe is employed, and the oxide is placed on numerous small shelves made of sheet iron and supported on small iron bars. When properly prepared, *reduced iron* (*fer réduit*) is in the form of a fine light powder, of a bright grayish slate-colour, in very minute division, and free from any trace of sulphur. The advantages which iron in this state possesses as a therapeutic agent are, first, that it is readily acted on by the weak acids—the lactic and muriatic, which are ordinarily present in the gastric juice during digestion; and second, that it is free from the inky taste which the preparations of iron possess in a degree proportioned to their solubility. The dose of it is from one to ten grains; it may be given in the form of pill or of bolus. The French physicians usually prescribe it made into pastilles with chocolate.—*Ibid.*, from *Annuaire de Thérap.*, 1846.

17. *Senna.*—An interesting account of the natural history of this valuable medical plant has been recently published by M. LANDERER of Athens. It is chiefly indigenous in Ethiopia, Arabia Felix, Abyssinia, Nubia, and Sennaar. The Arab

tribes who occupy themselves with this branch of commerce, do not pay the least attention to the cultivation or management of the plants. The senna plant attains the height of eight or ten feet, and affords to the inhabitants of the Desert some protection from the heat of the sun. The senna harvest begins about the end of September. The Arabs cut nearly all the branches off the trees, and expose them to the sun until the leaves begin to fade, when they are placed on high ground, and on rocks, so as to be dried as quickly as possible. As soon as they are dry, the branches are laid in heaps and beaten with sticks to shake the leaves off. The leaves obtained by this process are not damaged, and consequently fetch the highest price, nearly double the sum given in the bazaars for the broken senna. As all the leaves are not separated by this means, the branches are, in some parts of Nubia, placed on a dry floor, and camels driven over them; the remainder of the leaves are thus obtained, but they are much broken, and small pieces of the stems are mixed with them. The senna collected in various parts of Africa is packed in linen sacks, and conveyed on camels in caravans to the shores of the Nile, where it is transferred to boats, and brought thus to Cairo and Alexandria. In both these capitals there are senna magazines, to which the bales are conveyed to be unpacked, and again carefully sorted. Within the last two years the senna trade was thrown open, but it has latterly again become a government monopoly. An intentional adulteration of senna with other leaves is, in their native country, out of the question, for the slightest adulteration is there punished as a capital crime. The fruit, which is rarely found mixed with the leaves, because it is carefully picked out, is in very general use in the countries where senna grows. Two varieties of senna are ordinarily met with in the bazaars of Constantinople and Smyrna; an Egyptian and a Tripolitan product.—*Ibid.*, from *Repertorium für die Pharmacie*, Band. 37, Heft. 2, and *Pharmaceutical Journal*.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

18. *Glucosuria, or Diabetes Mellitus*.—By far the most novel and interesting of the recent researches into the causes of disease, are the papers on the pathology and treatment of diabetes, by M. Bouchardat and Sandras. To fully understand them it is necessary to bear in mind the present state of our knowledge in reference to digestion, a brief sketch of which is to be found in our department of anatomy and physiology. See p. 134–35.

M. Bouchardat conceives, that an enormous appetite, an insatiable thirst, an extreme desire for saccharine and amylaceous aliment, the suppression of perspiration, and the passing of a large quantity of urine containing glucose, are among the most established phenomena of the disease we are considering. His own researches lead him to believe that, first, the thirst is proportionate to the quantity of saccharine or amylaceous food taken; and secondly, that the proportion of glucose contained in the urine bears a constant relation to the saccharine or feculent matter contained in the food. These relations we find very distinctly exhibited in severe cases, but they are less evident where feculent substances form but a small proportion of the food; and when a patient has for some time been kept from using substances capable of forming sugar, the system seems to lose the habit of converting starch into glucose, and the urine may remain normal for some time after amylaceous diet is resumed, but matters eventually go on as before, and then the rule will be found to apply.

It seems rational to suppose, *a priori*, that the elements of sugar being denied to the patient, no sugar can be found in the urine. M. Bouchardat has endeavoured to ascertain whether sugar can be formed from proteinaceous substances; but all his experiments have been contradictory to the idea, that at the temperature of the human body, such a transformation can be effected; and the instances of patients kept exclusively on animal food continuing to pass glucose in their urine, he prefers explaining by the supposition, that the vigilance of the physician had been evaded, and bread, or something of the kind, really made use of.

The blood in glucosuria has been said to contain glucose by Rollo, Ambrosiani,

Maitland, MacGregor, Guibourt, Christison, and Kane; whilst that it ever does so has been most roundly denied by Nicholas and Gueudeville, Vauquelin and Segalas, Soubeiran and Henry, D'Arcet, Wollaston, Marcet, and many others. M. Bouchardat's experiments enable us to reconcile these glaring contradictions. He finds that the presence or absence of glucose depends very much on the time at which venesection has been performed. The blood drawn in the morning contains little or none, all the glucose formed during the digestion of the last meal having been eliminated in the urine during the night. There is another very fruitful source of error in the pathology of the blood. If the blood drawn be not examined immediately, the glucose it contains is rapidly converted into lactic acid, and the whole of the sugar may have disappeared from this cause, a fact which was amply verified by many experiments.

Alkalinity of the Blood.—M. Mialhe maintains that the alkalinity of the blood is diminished, or even altogether disappears, in glucosuria. But M. Bouchardat is of a contrary opinion, although he admits that it rapidly loses its alkalinity after being drawn from a vein.

Composition of the Blood.—Nicholas and Gueudeville, Soubeiran and Henry, Jr., found the blood of diabetic patients somewhat altered in diabetes; and their observations were confirmed by those of Le Canu, and the former researches of Bouchardat; the later observations, however, of the last-mentioned chemist, lead him to doubt the constancy of this change.

Contents of the Stomach in Glucosuria.—M. Bouchardat availing himself of some cases in which it had been thought judicious to administer an emetic of ipecacuanha, before commencing the regular treatment, has been enabled to study the nature of the contents of the stomach in diabetes mellitus. The fluid thus procured did not in any instance convert into glucose any of the compounds of proteine, whilst it acted powerfully on starch, even in the crude state, and by a very simple process a substance was obtained from it, in every respect identical with diastase—a principle which neither M. Bouchardat nor M. Blondlot, in numerous experiments made to determine the point, has in any instance found to form a constituent of the gastric juice of a healthy animal. In this last assertion, however, M. Bouchardat seems to be in error, since it was found by Bernard and Bareswil* that gastric juice, when rendered alkaline by a little carbonate of soda, loses the property of dissolving flesh, but becomes as active as either saliva or pancreatic juice in the conversion of starch into glucose; whilst, on the other hand, the pancreatic and salivary fluids undergo a similar conversion into gastric juice by the addition of a little acid.

Patients affected with glucosuria either die gradually of exhaustion, tubercles being developed previous to the fatal termination, or they are suddenly cut off without any symptom leading to an apprehension of such an issue. In cases arranged under the first category, no trace of sugar can be found in any of the animal fluids, or in any part of the body, after death. The same remarkable fact is observable in the other class, where the patients have been struck down suddenly. We have only room for one illustration. A young man from the country, about twenty years of age, and of very limited intelligence, had been affected with glucosuria for a very long time, and was notorious in his native place for the voracity with which he devoured enormous quantities of flesh, raw vegetables stolen from the fields and swallowed undressed, &c. &c. During the first twenty-four hours that he was in the Hotel Dieu, he swallowed a pound and three-quarters of bread, more than ten ounces of boiled beef, an equal quantity of potatoes, nearly a pint of wine, a pint and a third of broth, and nearly nine pints of tisane. During the same period he passed eleven pints of urine, containing 22954 grains of glucose, being the largest proportion ever met with by M. Bouchardat, in his very extensive researches on this subject. The following day the patient stole some bread, and, going into a cold damp place, to get an opportunity of eating it, he caught cold, and died, in eight hours, of pleuro-pneumonia. The stomach, of enormous size, was found full of an acid pap, in which portions of bread were visible; but the most careful examination could not detect in it any trace of glucose, nor could that substance be discovered in the blood or the other fluids. M.

* *Comptes Rendus*, t. xxi., p. 88.

Bouchardat infers from such cases that since the pouring out of the gastric juice has been found to depend on the state of health of the individual, they afford additional proof that the formation of glucose in diabetes is referable chiefly or solely to the diastase contained in the gastric juice.

Of the Nature of Diabetes.—The last article of our summary of digestion really contains M. Bouchardat's views of the nature of glucosuria. Diastase is secreted by the stomach abnormally, or, at least, in abnormal quantity; this reacts on the starch of the food, converting it into glucose; and a quantity of water equal to eight times the weight of the starch being necessary for the purpose of effecting this chemical change, this explains the insatiable thirst (so far as two facts without apparent connection can explain the reason of their conjuncture). The glucose thus formed, being absorbed by the intestinal and gastric veins, passes to the liver, but is in too large quantity to be all thrown off in the bile; it, therefore, enters the circulation, and is got rid of by the kidneys. M. Bouchardat supposes that the lower temperature of the bodies of glucosuric patients, resulting probably from the large quantities of cold water drunk, and the loss of caloric in converting the starch into sugar, may also prevent the destruction of glucose from being effected in the blood. He looks on the sudden suppression of perspiration as one of the most frequent causes of the affection, and seems evidently disposed to regard a too amylaceous diet as another predisposing cause; whilst he suggests to pathologists to inquire whether affections of the pancreas have any connection with it.

The illustrative experiments are, many of them, very interesting; but we have not room for them. Attempts were made to remove the pancreas, but the animals always died of the operation. In one case glucose appeared in the urine after ligation of the pancreatic duct, but on dissection, it was found that communication of the pancreas with the intestine had been re-established by ulceration. In the urine of animals fed exclusively on malt (which we know abounds in diastase), glucose occasionally, but by no means invariably, was found in very minute quantity in the urine. Great thirst or a ravenous appetite was, however, in no case thus produced. Even fully admitting the correctness of the theory, this is what should be expected, since it is quite impossible to produce, artificially, all the conditions to be met with in disease. We have heard it stated that Dr. Golding Bird had found glucose in the urine of many perfectly healthy persons in London; and that saccharine urine is endemic in particular parts of the country. This circumstance, if our information be correct, is deserving of careful examination. We know that in London, at least, malt liquors are used more freely than probably in any other part of the world; and if any connection between such habits and the production of glucose in the urine could be satisfactorily made out, it would go farther to establish the theory of M. Bouchardat than all his ingenious, though cruel, experiments on animals.

In the previous part of this paper we have made no allusion to what takes place after the fluid aliment is mixed with the circulating fluid, because, as yet, we have no means of following it thither, and all that has been advanced on the subject is mere theory and guess work. Liebig, indeed, has made a most able attempt to cut this Gordian knot, but it has proved too much even for his bold genius. Though many an imbelles telum has been hurled at his system, there can be no doubt that on a great number of points it is discordant with the facts which pathology, physiology and experience bring to our knowledge, and its very foundations have been sapped by the discovery by Redtenbacher of sulphur in taurine; by Booth and Boyé that uric acid is not changed into hippuric acid by the ingestion of benzoic acid; by Mialhe that glucose is not eager to combine with oxygen, but that, by the action of an alkali on it, it acquires the property of reducing certain metallic oxides, even when the access of air, or of any source of oxygen, is most carefully excluded,* and by very many of the facts laid before the reader in the commencement of this paper. It really requires as much philosophy to believe that the many pounds of potatoes swallowed by the countryman in the course of a day, find their full nutritive equivalent in the thimble-full of

* *Gazette Médicale*, No. xviii., p. 344; and *Comptes Rendus de l'Académie des Sciences*.

nitrogenized elements which forms but an infinitesimal part of his apparent food, as it does to adopt and *follow out* the doctrines of Bishop Berkeley. Knowing, as we do, that both water, and carbonic acid, and urea, and many other salts, are formed in the body, and having a still longer list of real chemical compounds which are decomposed in the system, it seems very much in contradiction to those notions of design and uniformity which we learn from all that we see around us, to suppose that of the mere mechanical mixture of oxygen and nitrogen, which it is the business of our lives to introduce into our lungs, the minor element alone is of any use; and that the immense quantities of starch swallowed in our food, although an elaborate glandular apparatus and complex organs are provided to render it capable of absorption, after which we can trace its progress into the blood itself, is, notwithstanding, intended merely to be burned off to supply us with heat. If carbon and hydrogen, and the organic acids, not to speak of the great acidifier itself, form fresh compounds in the body, we have not yet seen any valid argument to show why the same privilege may not be extended, as believed by Dr. Prout, to nitrogen; the latter view is supported by many powerful analogies. We certainly do believe that starch contributes to nutrition; and the views of digestion that we have been employed in illustrating strongly support that opinion. Animals, indeed, have been found to die when fed exclusively upon starch; but it was found equally impossible to prolong life on a diet of fibrine. Nay, it has been shown by M. Magendie's experiments, that even any artificial combination of gluten, albumen, fibrine, gelatine, &c., united in the proportions to form flesh or any other natural substance, was equally incapable of ministering to nutrition when used exclusively. Chemists, in proposing their theories, too often forget that the animal body is something more than a moving laboratory; many of the phenomena of life may indeed be generalized by assimilating them to chemical processes, but there are still too many gaps to be filled up, to permit us to regard them as identical. Thus, although we feel convinced that the views of digestion developed in this paper are in general correct, so far as they go, yet we are very far from regarding the processes they are meant to explain as purely chemical, nor do we think that any ulterior investigations will make us to understand why it is that we can digest some substances (as, for instance, fruit) at peculiar times of the day, and not at others; why fish, of which an individual is very fond, and which he digests perfectly well, will yet bring out over his whole body an eruption of urticaria in ten or fifteen minutes after being swallowed; why a patient may be cured of dyspepsia by a diet of turnips, which we knew to be the case in one instance; why the smallest portion of albumen, carefully concealed, may give rise to the most alarming sickness, as occurred in a patient of Dr. Graves', &c. Again, in diabetes insipidus, what chemical theory will explain the facts? In hysteria, what chemical processes require the large amount of water which in such cases we often see passed? And again, in diabetes insipidus, what explanation does chemistry afford? A patient of Dr. Benson's is at present passing urine of the specific gravity of 1.002, and without a trace of glucose or albumen, yet eighteen pints are voided daily. Need we refer to albuminuria, &c.? In fact, the cases beyond the reach of a chemical solution are far more numerous than those to which such explanation applies. Different animals seem fitted to digest very different substances; we also find taste and mental impression have a powerful influence on the digestive process, and we very much doubt whether the most nutritive compound swallowed with disgust, would not utterly fail of being properly assimilated. We are confident, therefore, that although every intelligent mind must admit that chemical research has been of the most invaluable service to pathology and therapeutics, we must still say of most chemical theories of organic processes, as was said by Cuvier* of a similar attempt to explain the phenomena of organization by analogies drawn from the inorganic kingdom, half a century ago, "*Quelque vraisemblance que puisse avoir le principe en général, et quelque esprit que ces auteurs aient mis dans son emploi, nous avons trop vu ci-devant combien la chimie des corps organisés est encore peu avancée, pour que nous puissions en espérer une application détaillée.*" Without knowing all, we may, however, know something of what takes place within us; we may

* *Mémoires de l'Institut. Rapport Historique sur les Progrès des Sciences Naturelles, 1810.*

sketch out some of the leading facts, without pretending to fill up all the details; and this is what has been done by M. Bouchardat in applying to the treatment of diabetes, some of the knowledge which he had acquired respecting the changes which accompany rather than constitute digestion.

TREATMENT OF GLUCOSURIA.—Most of our readers are probably aware that, for many years past, M. Bouchardat has been engaged in the most careful and continued study of the phenomena and treatment of diabetes. The knowledge of his being thus occupied has caused him to be consulted, in numerous cases of the kind, by country practitioners; and the vast hospital (Hotel Dieu, at Paris) to which he is attached as *pharmacien en chef*, has furnished him with the means of pursuing his researches on a very extended scale. For this task, the extent of his knowledge of chemistry, physiology, pharmacy, and practical medicine, render him qualified in an unusual degree, and an examination of his work will prove that he has not belied our expectations. His observations are singularly free from that exclusiveness, to which the mere chemist or physiologist is so liable, and the whole of his suggestions have a practical and common sense character, which bespeaks less of theory than of actual induction from facts. *Forty-two* cases of well-marked glucosuria are detailed at the end of the essay, and are well worth a careful perusal; but we can only state that of these, eleven terminated fatally, most of them from advanced phthisis, some from misery, others from intercurrent affections; fourteen others, having followed the *régime* recommended, with more or less strictness, experienced decided benefit; and the remainder, sixteen in number, were perfectly cured. The first element and basis of M. Bouchardat's treatment of glucosuria is, the exclusion from the diet of all substances capable of conversion into glucose. At first, in all the enthusiasm of a discoverer, he thought that this alone was sufficient, but he soon found that the means of cure are by no means so simple, and that they really embrace attention to a great number of minute particulars, the influence of which requires to be united, and carefully continued for a considerable length of time, in order to produce the desired effect.

Diet.—All farinaceous substances and their compounds, or those into the preparation of which starch in any way enters, must be most strictly prohibited. In enforcing this prohibition the greatest address is required, as the longing of the patient for such articles is very great; and it is, above all things, essential to successful treatment, that disgust for food, and consequent anorexia, should, if possible, be avoided. To satisfy the cravings for feculent substances, M. Bouchardat has invented a kind of bread, containing nothing that is convertible in the stomach into glucose. The mode of preparing this *gluten bread* is given below,* and of its value in the treatment of diabetes we have ourselves seen several very striking proofs in the practice of medical friends.

Animal food of all kinds, as well as eggs, milk, butter, and cheese, may be freely used, subject to the usual restrictions as to digestibility, &c.

The following vegetables are also proper to form a part of the diet of a diabetic patient:—spinach, endive, lettuce, sorrell, asparagus, *haricots verts*, cabbage of all

* **Gluten Bread.**—The gluten is best obtained by the process of M. E. Martin: 40 parts of water and 100 of fine flour are worked into dough, as in making bread, and then laid aside for about half an hour in summer, or an hour in winter, in order to allow time for the water to combine with the flour. The dough thus prepared is laid on a fine metal sieve, on which several fine streams of water are playing from a vessel suspended above, and being thoroughly worked with the hand, as in baking, until the water flows off uncoloured, the starch may be collected in the washings, and gluten to the amount of about one-fourth the weight of the flour employed will remain on the sieve, though of course the quantity varies with the nature of the flour. The gluten to be made into bread must be fresh prepared, as it begins to alter in a few hours. It is mixed with one-fifth its weight of the finest flour, and kneaded for a very long time with the proper proportions of salt and leaven, by which a very light and elastic bread, without odour, and very agreeable, is readily formed.

Gluten bread is highly nutritious, and, in addition to its use in the treatment of diabetes, has been found of the greatest value in those cases of dyspepsia, gastralgia, or whatever else they may be called, in which the simplest aliment is found to sour upon the stomach, giving rise to acid eructations, pain, and epigastric constriction.

kinds; the last may be very usefully combined with fat pork or salt bacon. Cresses of every kind, dressed with a large proportion of oil and hard boiled eggs.

A very agreeable and useful dish may also be prepared from fresh gluten, carefully deprived of starch, and combined with butter, and some kind of cheese grated.

The dessert may be composed of olives, almonds, filberts, and walnuts. The following may also be allowed from time to time, but always in very moderate quantity, viz., apples, pears, cherries, currants, gooseberries, strawberries, raisins, and pine-apples.

Drinks.—Great importance in the treatment is assigned by M. Bouchardat to a proper selection of alimentary drinks. Theoretically, he regards spirituous liquors as belonging to the same category as oil and fecula, viz., ministers to respiration; and, by a judicious combination of the two extremes, oil, which burns away slowly, and alcohol, which is rapidly consumed, to obtain the effect of the intermediate substance, fecula. Experience proved that stimulants in moderate quantities are useful; but that they require much discrimination and very careful management. The red French wines, such as those of Bourgogne and Bordeaux, which have a certain degree of astringency, he has found to answer best; and of these he administers about a pint in the twenty-four hours. It is sometimes necessary, but under peculiar circumstances, to increase the allowance of wine to three or four times this amount; but the least approach of inebriation is always injurious. A patient of our friend, Dr. Hunt, who has been remarkably relieved by M. Bouchardat's mode of treatment, and who is still under Dr. Hunt's care, is invariably rendered worse by even a single glass of wine; and the same circumstance was observable in another case that we had under observation for some weeks.

Beer and all the saccharine liquors have been found injurious, as might be supposed; and, if used at all, should be taken very sparingly indeed.

Coffee is useful to almost all diabetic patients, and should be taken without sugar, or the quantity of the latter ingredient must be very small indeed.

Lemonade, and the other cooling drinks, give but temporary relief to the thirst, are, in this respect, no better than pure water, and are decidedly injurious.

Clothing ranks next to diet among the means of curing glucosuria. The whole body must be protected from sudden chills, and the insensible perspiration must be encouraged by being clothed in flannel.

Exercise, carefully regulated, and progressive, so as to avoid too great fatigue, and of such a kind—gymnastic exercises or manual labour, for instance—as is accompanied with pleasure, will, in all cases, be found of very great service in promoting the cure.

Baths have not been found by M. Bouchardat of much general utility. Tepid baths are occasionally useful, when there is no danger of the patient catching cold; and swimming baths, especially in the sea, when they can be borne at all, are often attended with the most rapid and beneficial results.

MEDICAL TREATMENT in glucosuria, though useful and never to be neglected, can only be considered as subsidiary to the other means employed.

Carbonate of Ammonia M. Bouchardat has found of very great utility; but its use should always be united with the constant wearing of very warm clothing, or the medicine passes off by the kidneys, and gives rise to an alkaline state of the urine. It is exhibited in the following combination:—carbonate of ammonia, 77 English grains, rhum, 310; water, 1550. One-third to be taken half an hour before each meal. Or it may be prescribed in the form of a bolus, each containing eight grains of the carbonate, with an equal quantity of *thériaque*; from two to ten to be taken each night on going to bed. M. Bouchardat was unable to determine whether, in glucosuria, the ammonia acts as a stimulant or a diuretic, or what is the mode of its action; but of its efficacy in the treatment of rebellious cases he has fully satisfied himself.

Vichy water has, in some cases treated by MM. Jadioux and Bouchardat, been found of very decided efficacy. The alkaline bicarbonates generally, and especially that of soda, have been very highly recommended by MM. Contour and Mialhe. The latter gentleman, indeed, places his chief reliance on alkalies given in some form; and he has brought before the Academy, at different times, cases

of glucosuria successfully treated by that means almost alone. M. Mialhe is, however, so very exclusive in his chemical notions, if we may judge from the work that he has published, that we fear his medical observations must be very much modified by his chemical enthusiasm; and that his notions of what *ought* to take place will, as often happens with the greatest men and the most would-be impartial observers, make him very blind to the real facts, and most ready to adopt as proofs what are really very far from being such. Besides being found by M. Bouchardat (whose extensive experience in diabetes renders every observation of his on this subject of very great weight) very much inferior in therapeutic efficacy to the carbonate of ammonia, MM. Honoré and Gueneau de Mussy have found it in some cases actually injurious.

Dover's Powder and Opiates.—Every practitioner has experienced the benefit of these medicines in some cases, as palliatives, though many regard them as capable alone of effecting a cure. M. Bouchardat employs them only as diaphoretics. Morphia, or pure opium, he never prescribes in diabetes, lest the stomach should be put out of order; but Dover's powder, in doses of ten or twelve grains at bedtime, he has found most efficacious; though, of all the opiates, he regards the theriaca (divina) as that from which by far the most favourable results have been obtained. He gives this preparation, the absurd complexity of which he does not pretend to be able to reform, in doses of from half a drachm to a drachm every evening. The last-mentioned quantity contains about one grain of crude opium.

Chalybeate and Tonic Remedies.—When the pallor and other symptoms give the case a great similarity to chlorosis, the tonic bitters, alone or combined with iron, will be found of much therapeutic value. The preparation of iron most valued by M. Bouchardat, viz., the pulverized iron, or the metal reduced by hydrogen, has been but recently introduced into this country; but if the price could be rendered more moderate, we have no doubt that it would speedily become a general favourite with physicians.

Common salt was formerly regarded by M. Bouchardat as a useful remedy from the diminution of thirst which diabetic patients experience after partaking of salt meats; but although, under such circumstances, the quantity of glucose passed also diminishes, no permanent or decisive benefit has been obtained from the employment of this means of treatment.

Evacuants.—M. Bouchardat commences his treatment by the administration of an ipecacuanha emetic, followed by a purgative to free the bowels of anything injurious that may be detained there; but he finds evacuant medicines, though so highly recommended by authors, of no real use afterwards, except to combat particular symptoms.

In speaking of digestion, we mentioned that certain substances have been found at once to put a stop to the action of diastase, and it is curious that these are chiefly the very medicines which have been most highly vaunted, by the older authors, as the proper remedies for diabetes. They have all, however, been found of little or no real value, except where, being unable to submit the patient to any regular treatment, we seek only to procure a temporary relief; the remedies of this class are lime-water, calcined magnesia, alkalies, nitric, phosphoric, and sulphuric acids, alum, tannin, and the other astringents; and some of the writers, by whom they have been found successful, we have mentioned in the notes at the bottom of the page.*

* Calcined Magnesia, by Traller, (New England Journal of Med. and Surg., 1824,) and Hufeland, (Journal, 1833.) Lime-water, by Willis, (Works,) Zorn (*Sobernheim Arzneimittell*, 1836), and Schutz (*Allg. Med. Ann.*, 1801). The Ammoniacal Salts, by Hufeland (*Enchiridium Med.*, 1836). Peter Frank (*De Curandis Hominum Morbis*); Durr (*Hufel. Journ.*, 1833); and Newmann, who, by-the-by, entertains the curious and very original notion that the testicles are supplemental to the kidneys, and that the main indication in diabetes is to excite the procreative powers (*Spec. Path. u. Ther.*, t. 2, *Chron. Krankenh.*, 1832); Alum, by Mead (*Opera Omnia*, &c.), Brocklesby (Med. Obs. of Soc. of Physicians of London); Meyers (*Diss. Inaug. de Diabete*, Ed., 1799); and Herz (*Selle, Neue Beitræge*, &c., t. i.) We have both ourselves prescribed alum with most decided benefit, and, when residing in Jervis-street Hospital, we remember

Bleeding is the last therapeutic means we have to consider. General bleedings have been recommended by a long list of writers, from Aëtius downwards; but M. Bouchardat has found them, as indeed might have been expected, invariably injurious. Abstraction of blood, by leeches and cupping, from the epigastrium, as recommended by Sir H. Marsh,* Bardsley, Forbes, &c.,† from the loins, as advised by others, and from the anus, when the appearance of the disease has coincided with the suppression of hemorrhoids, has been occasionally had recourse to by Bouchardat, and often with benefit.

In concluding our abstract of the researches on the theory and treatment of saccharine diabetes, we would repeat the caution so often given by M. Bouchardat, that the practitioner is to place his chief reliance on the dietetic and hygienic means advised; and that it is from a combination of favouring circumstances, and not from any one single means that any decided benefit is to be obtained. For ourselves, having had several opportunities of seeing patients treated successfully on the above rules, both by M. Bouchardat himself, and by other practitioners, we feel convinced that whatever may be the truth of the theory, the practice is, in very many cases, the best that can be pursued.—CULLEN'S *Report in Dublin Quarterly Journ. Med. Sci.*, Aug., 1846.

19. *Cerebro-spinal Arachnitis*, as it has lately appeared in the Irish Workhouses, and some of the *Dublin Hospitals*. By ROBT. MAYNE, Physician to the South Dublin Union Workhouse, &c. (*Dublin Quarterly Journal of Med. Sci.*, Aug. 1846.)—Cerebro-spinal arachnitis appeared in an epidemic form in France in the years 1840, '41, and '42, and presented such formidable characters as to have attracted much attention, and it was the subject of many reports to the Royal Academy of Medicine. About the commencement of the year 1846, this disease appeared in at least three localities in Ireland, and in the present paper Dr. Mayne gives an account of the phenomena which were there observed.

The pathology of the disease, Dr. M. remarks, "seems to have been nearly uniformly the same, wherever examined: the serous membrane covering the brain and spinal marrow has been found invariably the seat of extensive inflammation; and, unlike the more ordinary forms of arachnitis, the *spinal* arachnoid always suffers much more severely than the *cerebral*.

"In the post-mortem examinations which have fallen under my notice, the scalp and dura mater exhibited but little undue vascularity; the pia mater covering the hemispheres of the brain was congested, and the large veins in their way to the several sinuses appeared remarkably turgid.

"The free surface of the cranial arachnoid felt dry and clammy, and had lost its transparency in many places, particularly at the base of the brain; but there was no lymph or other inflammatory effusion in the sac of the arachnoid. Lymph of a yellowish or greenish hue appeared on the surface of the encephalon beneath the serous tunic; this occurred sparingly on the upper surfaces of the hemispheres, and there only along the sulci, but at the base of the brain it was found in greater quantities, especially in the sub-arachnoid space corresponding to the circle of Willis, where many of the cerebral nerves at their origin were fairly imbedded in it.

to have seen two very remarkable cures effected by Dr. Hunt with that remedy. In all instances, however, cupping to the loins was also simultaneously employed. Kino has been found efficacious by Meyer Abrahamson (*Meckel, Neues, Arch. der pr. Arn.*, 1789), and Shee (*Schmidt, Recepte*). Tannin, by Giadorow (*Annali Univ. di Med.*, 1832). Creasote, by Hufeland (*Enchiridion*); Cornelian (i) (*Esperienze, &c., del Creasote*, Pavia, 1835); Elliotson (*Lond. Med. Gaz.*, 1835, and *Medico-Chirurg. Trans.*, vol. xix.); and Berndt (*Lancet*, July, 1835). Carbonate of Soda, by Hufeland. Sulphuret of Lime, by Haug (*Annal. f. Heilk.* Carlsruhe, 1833). Phosphate of Soda, by Sharkey (*Tr. K. and Q. College of Physicians in Ireland*, 1824). Sulphuric acid, by Fraser (*Ed. Med. and Surg. Journal*, 1806). Nitric acid, by Brera (*Bibl. Ital.*, t. vi., 1817); Gilby (*Allg. Med. Ann.*, 1802), &c. &c. In short, like all inveterate maladies, cases have got well under every treatment, and consequently, as in hydrophobia, the specifics are almost as numerous as the cases treated.

* *Dublin Hospital Reports*, vol. iii.

† *Cyclopædia of Practical Medicine*.

"In the spinal canal a similar exudation filled the sub-arachnoid space; it there existed in sufficient abundance to envelop the cord completely; it also extended down to the lowest extremity of the cauda equina, investing each of the spinal nerves at its source; but in the vertebral canal, just as in the cranium, the cavity of the arachnoid contained none of this morbid secretion. The substance of the brain and spinal marrow appeared remarkably free from lesion; there was no unusual vascularity, induration, or softening apparent, nor did the ventricles betray any evidence of inflammation.

"In the cases reported, however, the brain and spinal marrow are stated to have been occasionally implicated; in some the ventricles of the brain contained inflammatory effusions and the choroid plexuses appeared unusually vascular; in others more or less of the substance of the brain and spinal marrow was found in a state of softening; in a certain number sero-purulent effusion was detected at the base of the brain and in the theca vertebralis; but in every instance the serous membrane was the part essentially engaged, whilst the nervous material seldom suffered, and when affected it was only accidentally involved, the disease having been in such cases evidently propagated to the substance of the cerebro-spinal axis from its membranous investments.

"A remarkable feature of this malady is the class of persons on whom it has seized. In Ireland, so far as has been ascertained, boys under twelve years of age have been, with few exceptions, its only victims: the seven cases reported by Dr. Darby were all boys, and only one of them had passed his twelfth year; in Belfast ten cases of the disease were noted, all occurring in boys from seven to twelve years of age; and in my own experience, individuals of the same description have alone been attacked.

"It is a curious circumstance that in France the complaint appeared for the most part amongst the conscripts who had lately joined their regiments; and Versailles, Lyons, Metz, Strasbourg, Avignon, Nancy, and Poitiers, were the places in which it proved most destructive to life. Although females have been very rarely attacked, yet they are not exempt from its invasion, for, at the Hardwicke Hospital, one of Dr. M'Dowel's patients was a girl of seventeen, and the other a woman aged thirty-six years.

"The symptoms by which this affection commences are in general of a very formidable character, and its accession is usually sudden and quite unexpected; in the majority of cases the patient has been in his ordinary health and spirits up to the very moment of the seizure, and has experienced no premonitory symptoms to warn him of his danger. In four of the cases at the South Dublin Union, the boys had eaten a hearty dinner and retired to bed in apparent health, when the disease all at once declared itself. In many instances it commences with severe pain in the abdomen, followed immediately by vomiting, and not unfrequently by purging. In the worst cases these symptoms are accompanied by marked collapse, the extremities are cold and bluish, the pulse is at this time a mere thread, and altogether the disease assumes very much the aspect of cholera. After the lapse of a few hours, reaction, more or less perfect, ensues; the muscular system then presents characters which may be considered almost pathognomonic. The muscles of the extremities, and those of the neck in particular, become remarkably rigid, the head is drawn back upon the vertebral column, and firmly fixed in that unnatural position; no efforts of the patient can bend it forwards, neither can the attendants do so, at least by the employment of any justifiable force. The countenance at this period often assumes very much the tetanic expression; twitchings of the muscles of the face sometimes ensue; the patient loses in great measure the power of moving his extremities, so that he is quite unable to assume the erect position, the surface becomes hot, the pulse full and frequent (from 120 to 140); the stomach often continues irritable, whilst an insatiable thirst torments the sufferer; and the epigastrium evinces marked tenderness upon pressure.

"Symptoms of a still more distressing nature quickly supervene: the patient may be seized with general convulsions, of frightful severity, requiring personal restraint to protect him from injury; or he may lie in a semi-comatose condition, constantly moaning and grinding his teeth, or even crying incessantly. Towards the close of his sufferings he generally merges into perfect coma, the pulse be-

comes slow and laboured, the powers of speech and deglutition fail, his stools are passed involuntarily, and death finally closes the scene. All this may occur in a surprisingly short space of time; some of the cases ran their course in forty-eight hours, and the greater number terminated about the fourth day, whilst some few were prolonged over a fortnight or three weeks. Examples are on record of death from the disease in so short a period as fifteen hours.

"It should be mentioned, that although in some cases symptoms directly indicative of mischief within the cranium were early observed, such as pain more or less intense in the head, heat of scalp, congestion of the conjunctiva, strabismus, intolerance of light, &c., yet in many no such evidence occurred, until the laboured pulse, the dilated pupil, the profound coma, or the severe convulsion, told but too plainly that the death-struggle was at hand.

"In some instances an exalted sensibility of the cutaneous surface generally has been remarked, the patients being 'sore all over,' and wincing upon the slightest touch, or refusing to change their position in bed, from the pain consequent upon the slightest movement (the observation of this symptom is due to Dr. M'Dowel); but far more frequently a diminution of tactile sensibility and confirmed stupor have afforded grounds for the worst anticipations.

"I have more than once had occasion to notice irregular and laboured respiration as a leading symptom; and this in itself, in the absence of stethoscopic evidence of thoracic disease, would constitute a valuable diagnostic.

"Notwithstanding that the distressing tenderness of the epigastrium, associated with continued irritability of stomach, would seem to indicate decided disease of that viscus, I have nevertheless found the abdominal viscera absolutely healthy in the necroscopic examination of two cases, in which these symptoms persisted in a very marked manner to the close.

"The fatality of this complaint, since its appearance in Ireland, has been great, although its treatment has been conducted by several different physicians; however, such a result will scarcely be considered extraordinary, when the terrific nature of the malady is taken into account; and if *our* remedies have proved frequently unavailing, our continental neighbours have encountered even a greater share of disappointment. At Avignon, M. Chauffard, who enjoys the reputation of great ability in his profession, lost no less than twenty-nine of the first thirty cases committed to his charge; and, according to statistical calculation, not less than eighty per cent. of the cases noted during the epidemic in France terminated fatally.

"The line of treatment most likely to prove successful requires our fullest consideration. It is much to be feared, that when symptoms denoting extreme collapse show themselves from the commencement, all the resources of our art will prove unavailing. The prompt application of the most powerful excitants to the cutaneous surface, particularly mustard and turpentine, aided by heat and friction, and directed specially to the region of the spine and to the extremities, seems to promise some advantage. Diffusible stimulants should probably be employed as sparingly as possible, seeing that an intense inflammation, affecting the very centres of animal life, must remain, after reaction sets in, to be combated. General and local depletion, so soon as it can be borne with safety, and the early and free exhibition of mercury, both by the skin and stomach, should constitute our chief dependence.

"Even this active treatment will often disappoint us. In one case, the jugular vein was opened by myself within a few hours after the accession of the complaint, and blood was drawn, in a full stream, as long as the boy's strength would permit. This was followed up, at short intervals, by relays of leeches to the temples and mastoid processes. The mercurial plan was, at the same time, most energetically pursued, and blisters, with mercurial dressings, were applied to the head and along the spine. Yet all was of no avail; my patient died, in convulsions, on the fourth day. In other instances which have occurred to me, the very same measures have been attended with perfect success. This may lead us to expect favourable results hereafter; particularly should future cases, as usually occurs in the progress of an epidemic, assume a milder and more manageable form than those first observed.

"In France, the greatest discrepancy of opinion has prevailed as to the relative value of different modes of treatment."

The *cause* of the disease is involved in the greatest obscurity.

20. *On the Diseases resulting from the immoderate use of Tobacco.* By THOMAS LAYCOCK, M. D. (*London Med. Gaz.*, Oct., 1846.)—The consequences of smoking tobacco are manifested in the buccal and pharyngeal mucous membrane, and their diverticula; on the stomach, the lungs, and the heart, and on the brain and nervous system. With regard to these consequences, it may be generally stated here that they vary according to the quantity of tobacco smoked, and according to the pathological conditions and peculiarities of the individual himself. Some persons will smoke a very large quantity before certain symptoms arise, while others experience these with a very small quantity. The amount consumed by habitual smokers varies from half an ounce to twelve ounces per week. The usual quantity is from two to three ounces. Inveterate cigar smokers will consume from four to five dozen per week of the lighter kind of cigars, as Manillas, Bengal cheroots, &c.

The first and simplest morbid result of excessive smoking is an inflammatory condition of the mucous membrane of the lip and tongue, and this sometimes ends in a separation of the epithelium. Then the tonsils and pharynx suffer, the mucous membrane becoming dry and congested. If the throat be examined it will be observed to be slightly swollen, with congested veins meandering over the surface, and here and there a streak of mucus. The inflammatory action also extends upwards into the posterior nares, and the smoker feels from time to time a discharge of mucus from the upper part of the pharynx, in consequence of the secretion from the mucous membrane of the nares collecting within them. Sometimes the anterior nares suffer, but in this case the irritation is not marked by increased secretion so much as by tickling and itching within them. The irritation will also pass to the conjunctiva (and I am inclined to think from the nares, and not by the direct application of smoke to the eye), and the results are, heat, slight redness, lachrymation, and a peculiar spasmodic action of the orbicularis muscle of the eye, experienced, together with intolerance of light, on awaking from sleep in the morning.

I think the frontal sinuses do not escape, for I find that one of the symptoms very constantly experienced after excessive smoking is a heavy dull ache precisely in the region of these sinuses. But, descending along the alimentary canal, we come to the stomach, and here we find the results to be, in extreme cases, the symptoms of gastritis. There is pain and tenderness on pressure of the epigastrium, anorexia, nausea on taking food, and constant sensation of sickness and desire to expectorate.

The action of the heart and lungs is impaired by the influence of the narcotic on the nervous system, but a morbid state of the larynx, trachea, and lungs, results from the direct action of the smoke. The voice is observed to be rendered hoarser, and with a deeper tone; sometimes a short cough results: and in one case that came under my notice ulceration of the cartilages of the larynx was, I felt quite certain, a consequence of excessive use of tobacco. This individual had originally contracted the habit of smoking when a sailor, and it had become so inveterate that he literally was never without a pipe in his mouth except when eating or sleeping. If he awoke in the night he lighted his pipe: the moment he finished a meal he did the same. It is only in extreme cases like this that the inference can be fairly made as to the morbid results of the habit, because there are so many other causes of disease to be estimated at the same time. This particular instance has, however, during my experience, been corroborated by others of a like kind, and I have come to the conclusion that inflammation and ulceration of the larynx in men are almost exclusively peculiar to the slaves of excessive tobacco-smoking.

Hæmoptœ is another morbid condition distinctly traceable to this habit. The patient experiences a slight tickling low down in the pharynx or trachea, and hawks up rather than coughs up a dark grumous-looking blood. I have not been able to ascertain whence this comes. I have known it to flow out of the patient's mouth during the night, or to be effused shortly after lying down. It is a symptom

worthy especial notice, however, because it gives great alarm, and may be readily mistaken for pulmonary hæmoptysis, or an expectoration of blood.

The action of tobacco-smoking on the heart, so far as I have observed, is depressing. The individual who, from some peculiarity of constitution, feels it in this organ rather than elsewhere, usually complains of a peculiar uneasy sensation about the left nipple—a distressing feeling—not amounting to faintness, but allied to it. In such an example no morbid sound can be detected, but the action of the heart is observed to be feeble, and slightly irregular in rhythm; yet not always so in the same person. An uneasy feeling is also experienced in or beneath the pectoral muscles, but oftener, I think, on the right side than on the left.

On the brain the action of tobacco-smoking is sedative. It appears to diminish the rapidity of cerebral action and check the flow of ideas through the mind. This, I think, is a certain result; and it is in consequence of this action that smoking is so habitual with studious men, or men of contemplative minds. The phrases, “a quiet pipe,” or a “comfortable cigar,” are significant of this sedative action. It differs, however, in kind from that of opium or henbane, because, as a *general* rule, tobacco does not dispose to sleep: it may in *individual* instances, but not generally, with tobacco-smokers. On the contrary, it rather excites to watchfulness, and in this respect is allied to green tea in its action; or, if not to wakefulness, to dreams, which leave no impression on the memory. When this effect has passed off there appears to be a greater susceptibility in the nervous centres to impressions, as indicated by trembling of the hands, and irritability of temper.

There are a few facts which I would now state generally, and which appear as secondary results of smoking. Constipation and hemorrhoids are often experienced by inveterate smokers. Acne of the face I have observed to be excited and kept up by the habit, and to disappear with the discontinuance of the latter. Blackness of the teeth and gum-boils are not uncommon results. There is also a sallow paleness of the complexion, an irresoluteness of disposition, a want of life and energy, to be observed occasionally in inveterate smokers, who are content with smoking,—that is to say, who do not drink. I have suspected also that it has induced pulmonary phthisis. It is thought that the sexual energy is impaired by the habit, but on this point I have no facts to detail.

21. *Results of Experiments on the Physiological action of Tobacco.* By SAMUEL WRIGHT, M. D., of Birmingham.—The watery infusion of tobacco, whether administered by the mouth or the rectum, or injected into the arteries or the veins, produces, in animals, all the effects of direct sedative action upon the nervous system. As is usually the case under such circumstances, the heart is the organ which chiefly shows the influence of the depressing agency. Its beats invariably lessen in force, but they sometimes become more frequent, at other times more slow; and again, irregularly intermittent. Not always, however, does the heart chiefly indicate the sedative action of tobacco. I have seen, in the dilated pupil, the relaxation and helplessness of limb, the involuntary dribbling away of urine, and escape of feces, proof enough of extreme prostration of strength, whilst the heart has been proportionately only mildly affected. As far as my own experience goes, there is no truth in the notion that the sedative action of tobacco is due to its lessening the force and frequency of the heart's action. Its influence is directly upon the nervous system, and indirectly on the chief organ of circulation.

The action of tobacco on man seems to be precisely the same as on the inferior animals. I have never been able to discover that it is capable of affecting the brain, as an intellectual organ, otherwise than through its sedative action. My observations and experiments have all tended to prove, that, when the intellectual function suffers from the action of tobacco upon the system, it is due to some error of circulation consequent upon the depressing influence of the drug. The most extreme prostration, however, may be produced, without the processes of intelligence being much affected. I was once hastily summoned to see a man, said to be dying; and, in truth, he was in a most complete state of collapse. He was cold all over, pallid, and covered with a cold sticky sweat; pulsation was imperceptible in the radial or temporal artery, the heart's sounds were inaudible even to the stethoscope, and the only proof of vitality not having left was a deep sigh drawn every fifteen or twenty seconds. I learnt that the poor fellow had been

induced to sit over a chamber-pot containing half an ounce of tobacco, with some burning coals thrown upon it, to ease himself of piles. He had sat for a few minutes, and at last fell off in the prostrate condition I have described. The treatment consisted in pouring brandy down his throat, applying strong friction over the neighbourhood of the heart, and putting his feet into hot mustard and water. In a short time reaction came on, and recovery was finally complete. I was assured by this man, that, amid his utter powerlessness, he was perfectly sensible, during the greater part of the time, of all that was passing around. In proof of this, he related most of the conversation that had occurred concerning him.

According to my own observations, the essential oil of tobacco obtained by ether produces all the physiological effects of the watery infusion. Any stimulant action that may be produced by the empyreumatic oil is due to some stimulating material engendered by the elevated temperature.

In giving to dogs small quantities of tobacco, of from two to five grains, twice or thrice daily, mixed with their food, the result was a slow declension of nervous power, ending in complete marasmus and starvation. In particular, I remarked an intermittent action of the heart, habitual dragging of the hind legs, a seeming loss of venereal power, and a total disinclination for sexual intercourse. The testes became soft and shriveled, and the muscles of voluntary motion underwent the same change. The hair at first became rough, and then it fell off; the pupils enlarged, and the eyes swam with tears, succeeded finally by purulent and ichorous discharge. Sloughing of the eyelids, and blindness, generally preceded death. After death, the blood was invariably found fluid, deficient in fibrin, and particularly so in red globules: the heart was pale, soft, and smaller than natural: the body never stiffened, and decomposed very rapidly. The gums began to swell and bleed early in the experiments, and the teeth loosened, and sometimes dropped out. The mucous membrane of the mouth, nose and trachea was softer, more tumid, and more vascular than usual.

In carefully watching the effects of the excessive or long-continued use of tobacco upon the human subject, I am not able to fix upon any that are not due, immediately or remotely, to the physiological influence above noted. To this cause I attribute many disasters I have known to succeed an extravagant use of tobacco by individuals of strong, hearty, nervous temperament, and a more moderate use of it by subjects physically less favoured. The nervous system, as I have said, has peculiarly suffered; and thence have arisen obtuseness in the functions of the several senses, irritability, indecision, and loss of courage, or of determination of action, weakness of the muscles of voluntary motion, and depravity of the secretions. Particularly have I observed the buccal membrane (in smokers) to become vascular, swollen, irritable, and prone to hemorrhage. I have never observed an exception to the fact that in smokers the voice has deepened in tone (I suppose from relaxation), or become hoarse or oppressed through excessive mucous secretion. Many an irritable nervous cough, without increased secretion from the tracheo bronchial membrane, and many a cough dependent upon increased secretion, have I known to follow the frequent use of tobacco in smoking. I believe it to be a great antagonist of the functions of the nervous system, especially in its relations to the organs of sense, of reproduction, and of digestion. I think I have known it produce perfect atony, with all its train of consequences. I have known many instances in which I was unable to prove that the ordinary use of tobacco did any harm; I have known many more in which I could prove that it did do harm; and I have not known any good from it that might not have been obtained from less objectionable means.—*Lond. Med. Gaz.*, Oct., 1846.

22. *Excessive secretion of Earthy Phosphates by the Kidneys, with long continued irritability of the stomach.*—Dr. GOLDING BIRD has published in the *London Medical Gazette*, (July, 1846,) an interesting case illustrative of the remarkable relation existing between the functions of the stomach and kidneys. In his remarks on the case he observes:—"The connection of alkaline urine with blows or other mechanical injuries inflicted upon the spine is now generally recognized, and every one is familiar with the almost constant presence of phosphatic deposits as the result. But I am not aware of attention having been previously directed to the connection of this condition of urine, and attending diuresis, with intense irritability of sto-

mach, or at all events, of their standing to each other in the relation of cause and effect.

"Sickness, or rather continued and distressing nausea, has been long recognized as a frequent symptom of the passage of a calculous concretion along the ureter. My colleague, Dr. Barlow, has in a very interesting paper published in the 7th volume of Guy's Hospital Reports, succeeded in adducing a considerable body of evidence in support of the proposition enunciated by him in the following terms: 'That there is a certain symptom connected with irritation of the kidney, which, although not confined to it alone, is not necessarily connected with disease of those structures whose affections are most likely to be confounded with those of the kidneys. So that when this symptom is absent, we may disembarass ourselves of the consideration of all such affections of the kidney as would necessarily be attended by irritation of that organ: and when this symptom is present we are furnished with a reason for assigning the seat of the disease to the kidney, in preference to several adjacent structures. The symptom alluded to being sickness or rather irritability of stomach.' The cases recorded in Dr. Barlow's paper in which the sickness was present, were examples either of organic disease of the kidneys, or of calculi impacted in these organs. It has since occurred to me to meet with many cases in which the copious excretion of uric acid, in the form of crystalline gravel, has been attended with analogous symptoms; but the one now brought before the society was the first that occurred to me, in which the excretion of large crystals of the triple phosphate appeared competent to the production of a similar train of symptoms. I am not insensible to the possibility of a different induction being drawn from the phenomena presented by this case, for as, at the time of the lad's admission into the hospital, there were symptoms in the shape of gastrodynia, and a vividly red tongue, sufficiently urgent to warrant, on a *primâ facie* view, the idea of the stomach being the organ primarily involved. To such a view I have only to oppose the fact of all experience being wanting to prove the co-existence of the extraordinary state of the urinary secretions with any gastric affection with which I am acquainted. In support of this I might be permitted to allude to the long continuance of the ailment, and its refusing to yield to the varied and persistent treatment directed by several careful and experienced practitioners, who, as far as could be learnt, had made the stomach the chief object of attack. It is obvious that no argument can be drawn from the actual presence of gastric symptoms, as an erythismic state of the mucous membrane of the stomach must have been the necessary result of persistent vomiting, whatever might have been the originally exciting cause.

"Not to trespass too long on the time of the society, I may venture to express my own conviction of the etiology of the case in a few words. A lad of delicate frame is engaged in laborious occupations, often far beyond his strength for years, during that part of life which is most susceptible to marked influences; functional derangement of the spinal marrow ensues, marked by the pain across the loins, and altered state of the urine. The stomach thus rendered irritable scarcely retains food, emaciation results, the patient is unable to obtain a sufficient supply through the medium of the stomach for the sustenance and reparation, much less for the increase of tissue. The necessary result is, his stunted growth, extreme emaciation, and the excretion of an unhealthy fluid from the kidneys, the necessary result of the impaired condition of the vital chemistry of these organs, itself an almost constant, although often transitory, result of the slightest mechanical injury to the spine.

"I may remark, that I several times made a careful analysis of the urine with the especial view of detecting hippuric acid, but in no instance was I successful in detecting it. This examination was made in consequence of some general resemblance existing between the character of the urine in this case and some published on the continent, in which the presence of the acid alluded to was remarkable.

"The strychnia was administered in consequence of its well known influence upon the functions of the spinal marrow, and believing that where alkaline urine is really secreted as such by the kidneys, independently, of course, of the character of the ingesta, there are always some lesions of that important structure. Its effects were certainly most satisfactory, for after years of almost incessant vomiting, the patient soon acquired the power of retaining his food, the urine slowly losing its

alkaline character. I would, indeed, venture to press this important remedy upon the notice of surgeons, to whose province cases of alkaline urine following injury to the spine more immediately belong; for although not prepared to state anything approaching to a belief of its infallibility, I would still express an opinion that in many cases where especially there is no serious organic mischief, the strychnia would be more successful in relieving the distress attending upon the chemical changes going on in these cases, in the urine after secretion, than any other remedy with which I am acquainted. Nor can I avoid here taking the opportunity of alluding to the value of this drug in the distressing vomiting so frequent in uterine affections, especially in the irritable stomach of hysteria, in which it is almost always successful as an important palliative."

Three other similar cases have fallen under Dr. Bird's notice. In all three the urine was loaded with crystals of triple phosphate, and presented the pale whey-like colour noticed in this case. Dr. Bird suspects that the irritable state of the kidneys depending upon, or, at least, coincident with, the abundant secretion of phosphates, will be found a not uncommon cause of protracted nausea or vomiting.

23. *Electrical or Acute Chorea*.—During the last ten years Dr. DUBINI has observed about thirty cases of this dangerous form of chorea, and his colleagues have met with a great number also. He seems to have imposed the name "electrical" upon it in consequence of the resemblance which the muscular movements bear to those produced by the electrical shock. One finger, one extremity, or one side of the face (generally the right) only is first affected, but in the course of a few days the whole of the *same* side of the body becomes implicated. The movements are almost constant, and, besides those of a more moderate character, there occur, two, three, or more times in the twenty-four hours, violent convulsive paroxysms affecting precisely the *same muscles*, accompanied by a rapid pulse and followed by profuse sweating. After these have subsided the parts affected by them fall into a more or less complete state of temporary paralysis.

Fear seems in the majority of cases to have induced the disease, although, in some, the patients who were usually young (from 7 to 21) and robust are unable to trace it to any such cause. In some instances, pain in the head or in the course of the spine have preceded the attack. The convulsive action always attacks during the course of the disease precisely the same identical muscles, producing oftentimes great distortion of the eye, mouth, head, &c. Occasionally certain fingers, or one hand only may be affected without the disease extending to the rest of the body for thirty or forty days, and in one case the only symptom consisted in an affection of the muscles of the tongue for nine days; but the slightness of the attack, and the otherwise apparent health of the patient, must not put us off our guard, as the case is just as dangerous as the more severe forms of the disease. During the convulsive paroxysms the patient articulates with great difficulty, and if he has not arrived at the stage of stupor, he is usually employed in steadying the one arm, which is agitated just as if by electricity, with the other. The limbs are usually tumid but not œdematous; and the surface is morbidly sensitive, so that the least touch of the arm will sometimes excite the most violent clonic spasms of the whole corresponding side. As the case gets worse the convulsions become more unintermitting and sometimes implicate the other half of the body. They, however, get feebler and at last cease. The patient now becomes comatose, sweats pour from the body, the eyes sink in the head, the respiration is stertorous, the pupils are fixed, and the cornea becomes softened and sometimes ulcerated from the pressure at the angle of the eye. The pulse, which, during the existence of the convulsions had been strong and vibrating, is now feeble or imperceptible. This condition may precede death for a day or two. The intellectual faculties are preserved, as indicated by the movements of the patient's head, when the convulsions render speech impossible, until the apoplectic stage of the disease: and even in young children a remarkable presentiment of the fatal issue of their disease is often observed. The appetite is at first good, but becomes gradually less. The bowels get confined, and almost all the patients void *lumbrici*. Those of them who do not pass the worms, however, have not the disease milder than the rest—nor does the expulsion of these by anthelmintics give any relief.

The disease may continue from one to five or more months, if antiphlogistic treatment, suggested by the early deceptive and transitory symptoms, does not hasten the fatal termination.

Diligent examination of the head and spine after death only exhibits slight venous meningeal congestion, the quantity of limpid serum not being anormally large. No lesion of the cerebral substance is observed, save in a few instances some bloody points upon slicing it. A much greater degree of venous congestion is usually found, when bleeding had not been practised, in the chest and abdomen. Where bleeding has been resorted to, the brain has been found in a state of complete anæmia. Dr. Dubini found in three cases (out of thirty) softening of the thalami optici.

The author regrets that, as regards remedial measures, he is obliged to confine himself to stating what he has found useless—the disease usually proving intractable; and the only two cases which did recover, did so in the employment of measures which in other cases had proved useless. As necroscopies do not, however, exhibit organic changes as an essential part of the disease, he hopes that one day, a successful mode of treatment may be devised. *Antiphlogistics* are contra-indicated, and even the depression produced by a purgative or by the menstrual flux has aggravated the symptoms. Anthelmintics, large doses of calomel, oxide and valerianate of zinc, opium, strychnia, quinine, iron, and belladonna have been in turn tried in various cases without satisfactory results. The best palliative of the violence of the convulsions seems to be *extract of hyoscyamus*: and Dr. Rotondi reports three cases to the author in which a definite cure even seems to have resulted from the use of large doses of this substance.

Dr. Dubini enters at great length into the consideration of the differential diagnosis of this disease. He observes that violent muscular contractions characterize many diseases, but he has not been able to find the assemblage of symptoms just described in any work he has consulted. They may be thus recapitulated. Fear the common cause of the disease—the movements like those resulting from electricity—the same identical muscles affected, and all those situated on the same side of the body becoming gradually implicated—the same muscles after undergoing these violent contractions fall into a state of temporary paralysis—apoplectic stupor supervening upon the frequent repetition of the convulsive paroxysms—the absence of lesions explicable of the symptoms, and the fatal termination. He presents his readers with detailed synoptical tables of the differential diagnosis of this disease and ordinary chorea, epilepsy, eclampsia, ergotism, saturnine convulsions, cerebro-spinal meningitis, and convulsions from organic disease of the brain. We have only space for the transcription of the first of these.

Chorea Gesticulatrix, or St. Vitus's Dance.

1. The disease is characterized by irregular partial or general movements, changing at every instant, and giving rise to involuntary and frequently ridiculous gestures. Of the two sides of the body the left is attacked in preference: so that, of 25 cases observed by Ruz, in only one were the extremities of the right side affected. The irregularity of the muscular contractions is the pathognomonic sign.

2. The patient, at first of an active and correct frame of mind, may become fatuous, or acquire a marked mobility of character, by reason of which he laughs or cries, &c., without apparent cause, or falls into a state of apathetic indifference, the result of debility of intellect.

3. The vague movements of chorea are not necessarily followed by paralysis.

Chorea Electrica.

1. The movements, strikingly resembling those resulting from electrical shocks, are always identical, constantly affecting the same muscles as at the commencement, gradually however, implicating others of the same side also. Usually one side only affected, and that the right one. The identity of the muscular contractions is the pathognomonic symptom.

2. The patient seems aware of the gravity of the disease, and has for the most part an invincible presentiment of its fatal termination. No change of character is observed.

3. The muscular contractions are followed insensibly, and sometimes sud-

If the patient sometimes cannot govern his movements in walking, that is rather due to the irregularity of the muscular movements than to the existence of paralysis.

4. The disease in the majority of cases terminates in a spontaneous cure, or it may be relieved by various remedies. If death does occur, it is always in consequence of an intercurrent disease.

denly after the first paroxysm, by a paralysis of the affected parts.

4. Almost all the cases terminate in death, in spite of the most varied means of treatment—so that it may be literally said that death is the rule, recovery the exception. Death, moreover, is due to the progress of the disease, which by becoming more and more general, induces apoplectic stupor and death.—*Med. Chir. Rev.*, Oct., 1846, from *Annali Universali*, vol. 117.

24. *Loss of Language.*—The following interesting cases of loss of memory of language, are related by Dr. THOMAS CHAMBERS, in the *London Med. Gaz.*, of September last.

CASE I.—“Christian B., a German bootmaker, during the winter of 1842 used frequently to bring his sick child to me, and I often saw it at home, so that I had an opportunity of knowing his habits of mind and body. He was sober and intelligent, but a bad English scholar. In February, being disappointed in his hopes of success in trade, he became morose and dejected. At the beginning of March his wife came to me, stating that her husband had lost the use of his native language, but, what much surprised her, was still able to express himself in the little of ours that he knew. I did not take as a proof of this merely his not understanding my bad German, but could credit the report of his wife, who spoke it perfectly. This symptom was intermittent, as occasionally he seemed as capable of conversation, and as rational as usual. He complained by signs, of pain in the head, and confusion of thought. The bowels were costive, the pulse rapid but soft, and the tongue creamy. There was a feverish heat of skin, but it was at all times moist, and occasionally bathed in copious perspiration. A rapid and trembling action of the hands in taking hold of anything, and a peculiar precipitate manner of putting out the tongue, bore a striking resemblance to what we see in delirium tremens. Though very morose and snappish in general, he was occasionally, without cause, joyous and easy, and always seemed glad to see me. There was no intolerance of light, and he was rather pleased with looking out of the window. He was cupped, purged, and took small doses of mercury, and had cold lotions to the shorn scalp, with some slight benefit. The resemblance of the symptoms to delirium tremens I thought justified an attempt to remove the sleeplessness by morphia, but it did not appear beneficial. His wife, being in constant alarm for her children, had him removed to a lunatic asylum, where at first he seemed better, but, after six days, he suddenly became worse, and died so rapidly (apparently from asthenia), that they had not time to inform his friends of his dangerous state before his death. The body was brought home, and, assisted by Mr. P. Hewett, I examined the head on the 23d of March. The sub-arachnoid cellular tissue of the vertex contained some clear fluid, and the veins were somewhat congested. The substance of the brain was firm and healthy. The lateral ventricles contained no more fluid than is natural, but their membrane was slightly opaque. The arachnoid of the fourth ventricle had lost its glossy surface, and appeared as if sprinkled with fine grains of transparent sand: that also which covers the medulla oblongata was perhaps rather opaque. There appeared enough to justify us in attributing the man's death to inflammation of the arachnoid, and not to delirium tremens—an opinion which, before death, it would have been difficult to absolutely pronounce.

CASE II.—“Harriet C., æt. 12, had typhus fever in December, 1845; she had much delirium and low symptoms, but, as is usual with children, soon got about again, and was able to return to school. However, after a few days' attendance, she was one evening, on returning thence, taken with a fit, of an undecided epileptic character, had rigors, and was again delirious. The delirium was monoto-

nous, and remarkable for her constant repetition of the word "sinner" with every variety of intonation. Wine and bark were, as during her former attack, resorted to, but symptoms of slight effusion in the brain caused its suspension. She recovered after a few weeks so as to be up and dressed, but with the loss of power to pronounce any word except the one she had so often repeated during her fever. This she made serve to express all her ideas; for denial she shook her head and said "sinner;" assent was expressed by the same word, and bread and butter was called "sîn-ün-sinnër." She perfectly understood all that was said to her, and appeared capable of reading her usual lessons. Blisters were applied behind her ears, and small doses of mercury administered, and at the same time her mother and family were instructed to teach her as they would an infant to talk. I also took opportunities of showing her, by exaggerated motions of my mouth and throat, the way of forming the letters, in the manner in which the born deaf and dumb are instructed, and found her intelligent and ready. She soon acquired the word "yes," and other elementary expressions, and by the end of the spring was able, as her mother told me, "to talk like an old woman." Symptoms of consumption had, however, appeared, and she died this last summer under the care of another medical man, whose kind efforts to obtain a post-mortem examination for me were unavailing."

Dr. Chambers, in his remarks upon these cases, observes, "the instances usually cited of the loss of memory on special subjects are where it has been the consequence of blows or some such external injury to the head; still both it and general loss of memory will occasionally follow typhus fever. In some epidemics it has done so with such marked frequency as to form one of the characteristics of the prevailing disorder. This was the case in the great plague of typhus which followed the famine at Athens in the Dorian war, as we learn from Thucydides (book ii. cap. 49), where he tells us that of those who recovered, some entirely lost the recollection of their former associates, and some even the idea of their own personal identity. The symptom is an unfavourable one at all times, as showing that material mischief is done to the brain, but it is much less unfavourable when a consequence of fever, than where, as in the case of the German boot-maker lately cited, it commences the illness. The history I have related is sufficient to show it to be curable."

25. *Acute Tuberculosis of the Lungs.* By PROFESSOR HASSE.—Acute tuberculosis of the lungs seems to originate wherever, through existing disposition, the mass of fluids have become so saturated as, on a slight occasion, to throw out an inordinate quantity of tuberculous matter. The most frequent occasion is a catarrhal affection; indeed the disease seldom occurs unless thus preceded. Acute tuberculosis may arise either in persons previously free from tubercle, or else in those in whom manifest traces of previous tubercular affection are discoverable; or, finally, it may be grafted upon phthisis already present in a chronic form. Accordingly two forms may be discriminated, a primary and a secondary. The first attacks persons between the ages of 15 and 25, more especially the male sex; the latter those in the prime of manhood, or even advanced age. In very marked cases, one or both lungs are found uniformly loaded with tubercles from the apex to the base. These are always of the miliary form, mostly yellowish and soft, but occasionally gray and more solid. The colour and consistence depend upon the degree of irritation produced in the surrounding textures. The yellow and soft tubercles are found in the centre of a group of red or gray hepatized pulmonary cells, while the gray tubercles are imbedded in a tissue saturated with bloody serum. When the disease is slower in its course, the tubercles are less uniformly miliary, being in a great measure united into little groups, and more densely crowded at the apex than in the base of the lung.

Acute tubercular phthisis proves invariably fatal, very often during the third week. The vital symptoms are very peculiar, bearing so close a resemblance to those of typhus as to lead to mistakes. The diagnosis can only be determined by the stethoscopic signs, and sometimes by the continuance or frequent recurrence of hemoptysis. On examination after death, one or both lungs are found greatly enlarged; they do not collapse when the thorax is opened, are dark-coloured,

and gorged with blood and serum. The numerous and equally distributed tubercles have everywhere the same character, a sure proof of their simultaneous origin. They are surrounded for a line's breadth by inflamed, if not hepatized, parenchyma: the inflammation seldom, however, extends to any distance, so that, notwithstanding the great multitude of tubercles, pulmonary cells, still permeable and comparatively healthy, are everywhere to be seen. Adhesions between the pulmonary and costal pleuræ are never met with, unless of earlier date. Miliary tubercles are sometimes seen upon the pleura and other serous membranes; in rare instances also beneath the arachnoid. All the solids and fluids of the body suffer a change, inasmuch as a rapid exosmosis of serum is determined, and liquid effusion tinged with blood accumulated in all the serous cavities.—*Anatomical Description of the Organs of Circulation and Respiration*, translated by Dr. SWAINE.

26. *The Therapeutics of Hydatid Formations*.—KLENCKE found laurel-water to act as an active poison to the cysticercus. Other therapeutic agents possessing this property with regard to hydatids in general, are camphor, æthereal oil of cubebs, acetic acid, balsam of copaiba, spirits of turpentine, ammonia, and the carbonates. Klencke found electricity to be a powerful destructive agent. He tried it clinically, indeed, on a man aged 54, who passed acephalocysts and echinococci with the urine. For this purpose he introduced one pole of a small galvanic battery through a glass catheter into the bladder; the other pole was sometimes applied externally to the abdomen, sometimes by means of a glass tube to the rectum, and sometimes to the lumbar region, with the best results, dead hydatids being discharged about four hours after each application, until they ceased altogether.—*British and Foreign Med. Review*.

[REMARKS.—Klencke elsewhere observes, that alcohol, iodine, bile, and urine, act as poison to the acephalocysts and echinococci; but that they suffer no change from antimony, arsenic, or mercury. If it be correct that these animals are destroyed by immersion in urine, a difficulty becomes attached to the above case, in which electricity was found necessary to destroy the vitality of echinococci passing from the bladder. Common salt also appears to have a destructive effect upon these parasites. Dr. Budd alludes to the fact, that sheep fed in salt marshes are not liable to hydatid disease.

The above facts are, however, of great importance, as affording reasonable clues to the proper means of treating hydatid disease, constitutionally and locally. Klencke's microscopical researches have rendered it almost a matter of certainty that hydatids find entrance into the system by the circulation, and that their germs are carried through every part of the organism, and are deposited in its several tissues, by the blood; he has also shown the probability of the conclusion that hydatids first become stationary, by impaction of the germs or partly developed animals in some capillary vessels, the canals of which are too narrow to permit their transit; and here they form their nidus, enlarge, and germinate. Hence may be inferred the necessity of employing remedies calculated to act upon the whole mass of the fluids in all cases where hydatid disease presents itself, even in those instances where the parasites appear to have formed merely in some external structure, and where the evacuation of the hydatids and removal or injection of the cyst has hitherto been considered sufficient treatment. It appears to be fortunate that several of the substances which destroy hydatid life are capable of passing unchanged into the circulation; hence the administration of turpentine, cubebs, copaiba, iodine, hydrocyanic acid, alcohol, camphor, various salines, &c., in cases of this description, may be reasonably had recourse to. A singular illustration of the effects of alcohol upon some kinds of hydatids given by Klencke, in the case of a man who was for a time greatly relieved from cerebral symptoms (which were afterwards found to have depended upon the presence of acephalocysts, echinococci, and cysticerci in the brain), by drinking, in despair, a quantity of brandy. It is, however, not mentioned, in the account of the inspection, whether any collapsed hydatids were found in this person's brain. It would be interesting to ascertain whether individuals habituated to the use of ardent spirits are liable to become the subjects of hydatid disease, and whether the influence of alcohol, turpentine, iodine, &c., in the system, is capable of preventing hydatid

infection in the lower animals. The treatment by local means of hydatid tumours originating in internal organs, is a question of more difficulty. It is evident that the destruction of large collections of hydatids may be effected by means of irritating injections, &c.; indeed, this result is well-known to occur spontaneously in many cases where, an isolated collection of hydatids having formed in the liver, one of the bile ducts has opened into the cyst, the hydatids have been poisoned, have collapsed, and become partially absorbed, the sac contracting, and undergoing cartilaginous or ossific change. But, on the other hand, the death of the hydatids contained in large internal cysts is occasionally fatal to the patient. We remember to have seen an instance in which death rapidly followed the occurrence of inflammation mechanically excited in a large hydatid tumour connected with the peritoneum. Still, it is probable that, where the collections appear to be moderately circumscribed, their increase may be advantageously opposed by the use of local means, such as electricity, as recommended by Klencke. Probably the most effectual means of applying the current would be by affixing the poles of the battery to fine acupuncture needles introduced into various parts of the substance of the tumours. Some valuable suggestive results might be derived from the employment of this and other modes of treatment in the lower animals, where hydatid disease had been produced by inoculation.—(*London Med. Gaz.*, October, 1846.)

27. *Tannate of Iron in the Treatment of Chlorosis*.—Dr. BENEDETTI asserts that the tannate of iron is the most efficacious of all remedies in the treatment of chlorosis. In evidence of this he cites cases from his own practice and from that of Dr. Majocchi, affirming that the treatment by the tannate of iron is successful in from twelve to twenty-five days, according to the severity of the case.—*Bull. delle Sc. Med.*

28. *Treatment of Cutaneous Diseases by Alkalies*.—M. DIVERGIE has recently published some interesting observations on the alkaline treatment of skin diseases. He has employed alkalies in both papular and scaly affections; but with most success in the former, and particularly in the various forms of lichen. He employs three salts: the bicarbonate of soda, the carbonate of soda, and the carbonate of potash. The first of these he administers only internally, and usually prescribes it in solution, in some mild stimulant bitter infusion, or in carbonic acid water, the latter being an imitation of Vichy water. The dose at first is fifteen grains daily, in three or four glasses of the infusion, and this dose is augmented by eight grains every third day, until it arrives at one drachm, which dose is not exceeded. Externally the alkaline treatment is used in four different forms: in baths, in lotions, in powder, and in ointment. For the preparation of baths, either the carbonate of soda or carbonate of potash is employed—the quantity used for a single bath varying from eight to sixteen ounces, the strength being gradually increased. For scrofulous or debilitated individuals, he recommends the addition of one pound of common salt to each bath. The alkaline lotions are found of special benefit in skin diseases affecting parts covered with hair, as in the scalp, where they are usually so obstinate. For a lotion, from two to three drachms of carbonate of soda are dissolved in a pint of water. To the benefits derivable from the use of this alkaline wash in chronic eczema and impetigo of the scalp, we can bear testimony, from an extensive experience of its employment, both in hospital and in private practice. The alkalies are used in the form of powder, as a depilatory, in tinea and in sycosis menti. M. Divergie, however, employs the alkalies chiefly in the form of ointment, and sometimes combines a little quicklime, or a little sulphur, with them. He uses ointments of different strength, according to the nature of the disease. Thus, for lichen and its forms, the proportion is from eight to fifteen grains of carbonate of soda to the ounce of lard; for lepra, psoriasis, or ichthyosis, fifteen to thirty grains to the ounce of lard; and for porrigo favosa, thirty to sixty grains, with a grain or two of quicklime. It must be remembered, that the carbonate of potash is more caustic than the carbonate of soda. The following are some of the formulæ he employs:—*Alkaline Liniment*.—Carbonate of soda, $\mathfrak{z}\text{i}$; olive oil, $\mathfrak{z}\text{iv}$; the yolk of one egg; first moisten the carbonate of soda, and then incorporate it with the oil and yolk.

Alkaline Syrup.—Bicarbonate of soda, ℥ss; simple syrup, ℥viii; dose, a teaspoonful, morning and evening, in a glass of water. *Alkaline Powder.*—Carbonate of soda, in an impalpable powder, one part; fine starch, ten parts. For external use only.—*Dublin Quarterly Journal*, from *Annuaire de Thérapeutique*, 1846.

29. *Ammonia as a Remedy in Asthma.*—M. RAYER has recently published his experience of the effects of strong water of ammonia applied to the velum palati for the cure of asthma. M. Monneret and others had previously employed this mode of treatment, but they applied the caustic to the back part of the pharynx, and in some instances death had nearly ensued from suffocation, owing to the action of the volatile alkali on the glottis. M. Rayer's method of employing this remedy is as follows:—he dips a roll of lint, about the length of the middle finger, in a mixture of four parts of strong aquæ ammoniæ and one of water, pressing out the superfluous liquid, and immediately applies it for a few seconds to the velum palati, as if about to cauterize the part. The patient is immediately seized with a feeling of suffocation; a fit of coughing ensues, with much expectoration, and this is soon followed by a great feeling of comfort and facility of respiration. Should any return of the fit occur on the day following, the ammonia is again applied. The degree of tolerance of this remedy by patients varies very much; it is, therefore, always well to use it weak at first, which is easily done by moving the piece of lint, dipped in the solution, three or four times rapidly through the air, and then smelling it, when the strength is readily ascertained. In M. Rayer's experience, extending to over a hundred cases, a single application rarely failed to afford relief, and in many instances prevented a return of the attack for three or four months. This mode of treatment is alone applicable to simple or idiopathic asthma, that form which is so often dependent on emphysema, and is attended with catarrh; it has, nevertheless, afforded relief in some cases of symptomatic asthma.—*Annales de Thérapeutique*, Nov. 1845.

30. *Belladonna in Orchitis.*—An ointment consisting of one part of the extract of belladonna to three of lard, has been used with much benefit by DR. PHILLIPPE, chief surgeon to the Military Hospital at Bordeaux, for the cure of inflammation of the testicle, whether arising from direct injury or as the result of urethritis. He employs it in every stage of the disease, but states that he finds it most useful when the acute inflammatory symptoms have been previously subdued by antiphlogistic treatment, or in cases where induration and thickening of the epididymis remain after other treatment. About half a drachm of the ointment, prepared as above described, is rubbed into the scrotum twice daily, the inunction being continued for five minutes each time. The mean period of cure was five days in thirty cases thus treated. Dr. Phillippe also employs this ointment with most beneficial results in the treatment of buboes.—(*Journal des Connaissances Méd.*, Oct. 1845.)

31. *Pathological Characters of the Blood as it exists in the Exanthemata.* By WILLIAM CAMPS, M.D.—The fibrine of the blood in the exanthemata is seldom or never increased; it often exists in its normal proportions, and sometimes it is diminished far below its proper quantity. The globules, or blood-corpuscles, on the other hand, are found to be increased beyond their normal proportion in scarlatina and rubeola, and more so in these two affections than in variola and varioloid disease.

M. Andral has shown that the pustules in variola do not produce, nor are accompanied with an increase of the proportion of the fibrine of the blood; and that with every possible proportion of the globules or blood-corpuscles, whether they be in excess or in diminished quantity, an eruptive fever may equally exist, in all its varieties of form and of severity.

MM. Andral and Gavarret have analyzed the blood in five cases of variola attended with a confluent eruption. Twelve venesections were performed on the subjects of these five cases of variola, at different periods or stages of the disease, yet in all these analyses the globules or blood-corpuscles differed but slightly from their healthy proportion, whilst the quantity of the fibrine varied considerably, yet the increase above the physiological proportion was but trifling.

The same observers have analyzed the blood drawn in two cases of varioloid disease; in one the venesection was performed on the second day of the eruption, and in the other on the third day. In both these cases the fibrine was sensibly diminished, whilst the blood-corpuscles varied but little from their normal standard.

MM. Andral and Gavarret state, that in rubeola the proportion of fibrine never exceeds its proper limits, nor does it fall much below them; and in most cases the blood-corpuscles are somewhat above their normal quantity. The venesections were performed on the first, second, and third days of the appearance of the eruption, except in two instances, in which the venesections were performed after the disappearance of the eruption.

They have also made four analyses of the blood drawn from three patients affected with scarlatina. In two of these bleedings the blood, on analysis, yielded a larger proportion than usual of both the fibrine and the blood-corpuscles. The venesections were performed in two instances on the second day of the eruption, and in one instance during convalescence.

Lecanu has made analyses of the blood in scarlatina, which corresponded in their results with the observations of Andral and Gavarret, and proving that the blood-corpuscles were in greater proportion than in the normal state, although the proportion of fibrine was not accurately ascertained.

Whilst many cases of exanthemata proceed on through their entire course without any severe complication attending them, and throughout assuming a favourable form or type in their progress towards a favourable termination, we meet with other cases which, either from their commencement or during their course, are accompanied with such serious complications, or assume so unfavourable a form or type, as that it appears probable that life must fall a victim to the disease, so much is it threatened by the prostration of the vital powers. In these severe cases of eruptive fevers, the blood has been observed to become thinner, and of less consistence, containing much less of fibrine; the opposite to that state of the blood which is observed in the phlegmasiæ, where the proportion of the fibrine is usually greater than natural. Such a deficiency in the proportion of the fibrine, whenever it occurs, involves considerable alterations in the physical characters of the blood. The serum of the blood appears small in quantity in proportion to the clot, and they are not so distinctly separated from each other as in healthy blood, or as in blood drawn in cases of phlegmasiæ. The clot, too, is large, and sometimes occupies the extent of the vessel into which it has been received; and besides, it is never cupped, as it commonly is in the phlegmasiæ, and its consistence is usually so slight, that it may be very easily torn or broken down on pressure.

Another important character of the blood, negative it is true, which has been observed in this class of diseases, is the absence of the buffy coat. M. Andral states that he has never found this present in rubeola, scarlatina, or variola, except in cases where there had been some well-marked inflammatory complication attending them. He adds, that in variola, when the eruption is very confluent, and especially when there are collections of pus existing beneath the integument, or in some organ, the buffy coat may be found on the surface of the clot; but this buffy coat, instead of being firm and tenacious, is very soft and gelatinous. If the necessary condition for the production or formation of the buffy coat be a certain excess of the fibrine in proportion to the blood-corpuscles, we can easily understand how it may be absent in blood drawn from patients affected with diseases in which the fibrine is almost never in excess, but is found either in its normal proportion, or diminished below that. Andral supposes that this diminution of the fibrine is owing to an influence or cause, of the nature of a poison, which, if it be only slight, must exert a certain effect on the blood, although it may not be appreciable; whereas, if this poisonous influence or cause act in a stronger degree, its effect on the composition of the blood then becomes evident, both in its physical and chemical characters — (*London Med. Gaz.*, Oct., 1846.)

32. *Microscopical characters of Cancer.*—M. SEDILLOT, in a communication read to the French Academy of Sciences, on the 14th Sept. last, sums up his researches on cancer in the following propositions:—

The characters assigned to cancer by pathology and pathological anatomy are insufficient, in many cases, to render the diagnosis certain. Lancinating pains, a mammillated aspect, hardness, electricity, softening, ulceration, affection of the contiguous tissues, general affection of the constitution, the results of anatomical examination, relapse after removal, are circumstances common to many tumours—epithelial, fibrinous, fatty, cystoid, and others less known.

The combined pathological and microscopical characters of tumours, supposed to be cancerous, leads M. Sedillot to range them in five classes:—

a. Tumours presenting all the pathological and microscopical characters of cancer.

b. Tumours presenting all the pathological characters of cancer, but evidently belonging to other genera, as proved by microscopical examination.

c. Tumours which do not present decided characters of cancer, though the microscope shows them to be cancerous.

d. Tumours whose pathological characters are those of cancer, and which are believed to be cancer, and respecting which the microscope neither confirms nor invalidates the opinion.

e. Tumours whose nature remains quite uncertain despite our pathological and microscopical knowledge.

In a microscopical point of view, cancer consists of a new element without any analogue in the economy, which possesses an independent life, and also distinct forms, whereby, in most cases, a certain diagnosis can be deduced. The dimensions of the cancerous cell may attain ten times the diameter of the globules of the blood. The cancerous cell originates in two distinct ways, sometimes it commences in an amorphous liquid (blastema) under the form of nuclei (cytoblasts), which become changed into nucleoli (small cells) and subsequently attain their complete development; sometimes it commences and undergoes the phases of its increase in a pre-existing cell (endogenous generation), in which are seen nuclei and nucleoli, which escape by dehiscence or by a breaking up from the mother cell when they come to maturity. The other elements, which are tolerably often found associated with cancer, are—cellular and fibrous tissue, fat, granular globules, melanosis, blood, pus, crystals of cholesterine, &c. Fusiform bodies or cells in course of fibrillous transformation are very common.

The appearance of cancer indicates an original (hereditary) or acquired constitutional predisposition, the existence of which may be suspected, but can never be demonstrated except by the appearance of the disease. Local irritations, causing permanent sanguineous congestions, injuries with fibrinous deposits, any morbid action developed in a particular point of the economy, may excite cancer in a predisposed individual. The cancerous diathesis or cachexia seems in some rare cases to invade the economy very rapidly, and to precede or at least accompany the local manifestation of one or of several cancers.

The treatment is palliative, curative, or preventive, according to the indications; palliative, if the cachexia is manifest, the cancer intense, multiple, or inaccessible; curative, in every case where the constitution is still sound, the cancer circumscribed, and susceptible of being completely removed. The prophylactic treatment consists in preventing and combating all the causes of the evolution of cancer in persons already operated on for cancer, and therefore liable to relapse.—*Dublin Med. Press*, Oct. 21, 1846.

33. *Case in which there was a black secretion from the skin of the forehead and upper part of the face.*—The tenth volume of the *Medico-Chirurgical Transactions*, (London, 1845,) contains an account by WM. TEEVAN, Esq., of a very remarkable case of a lady, 15 years of age, who was afflicted with a singular discoloration of the forehead and upper part of the face. The discoloration was first observed about the middle of January, 1845, on the left under eyelid, near the internal angle of the eye; appearing at the commencement as a brownish spot, which in the course of four or five days assumed a jet black colour, and gradually extended to the entire forehead and eyelids of both eyes. The discoloration never appeared on any other part of the body, and on the forehead was accurately limited by the hair. The patient stated that on her attempting to wash the black matter off it caused her so much pain, owing to the sensitiveness of the skin, that she desisted,

and until Mr. Teevan removed it by the application of soap and water, she was not aware that it could be removed by ordinary means. The quantity of matter removed from the skin was sufficient to darken four basins of water as black as Indian ink. With the exception of occasional headache and severe pain in the chest, the patient appears in good health; the bowels are generally confined; the catamenia regular but scanty; her complexion is fair and the hair light brown.

Mr. T. was naturally enough inclined to suspect some imposition on the part of the lady, and after washing the black matter he kept a watch on her, never allowing her to leave him for five or six hours, when he observed the black secretion to reappear.

About three months after this patient came under Mr. T.'s care, she was attacked with erysipelas of the face and neck, during which attack she vomited two large basinful of fluid, containing an immense quantity of black matter, which subsided to the bottom of the vessel. This black matter, when examined under the microscope, as well as by analysis, was found by Dr. Rees to be identical with the specimens of black matter with which Mr. T. supplied him from the patient's face; the vomited matter, and a specimen taken from the patient's face, were both examined under the microscope, by Dr. Hodgkin and Mr. T.; and found to be analogous. Both appeared and smelt exactly like soot. The vomiting lasted for two days, during which period the black was passed by the bowels, as well as by urine, the face remaining free from any discoloration during this time. On the evening of the third day, no matter having been ejected from the stomach or secreted from the face since the morning, she was seized with the most agonizing pain in her stomach and bowels, which subsided after the administration, in divided doses, of 150 drops of laudanum. The morning after the attack of pain, the black secretion reappeared, as usual, on the forehead and face, and continued for two weeks, when it ceased (May 23d), having for two or three days previous to its entire cessation, appeared in less quantity than usual. There is no case on record, Mr. T. remarks, "similar to the present one; and respecting the physiological cause of the disease, I have no clear conception; but I believe the secretion to be analogous to what occurs in melanosis. The cessation of the secretion of the black matter by the cutaneous exhalents of the forehead during the period it was ejected from the stomach, bowels and kidneys, although singular, is not unaccountable; the latter organs probably becoming a substitute for the former. The patient had no tendency whatever to hysteria. The secretion was always more abundant during the night than the day, so much so, that when the patient washed her face at bed-time, the affected parts were invariably covered the subsequent morning with a large quantity of the black matter in a solid but moist condition."

The following is the analysis of the black matter by Dr. G. O. Rees:—

"We may regard the black matter, scraped from the face, as composed of carbon, iron (in some unknown form of combination), lime, animal matter (albuminous), fatty matter, alkaline phosphate and chloride.

"Its reactions were as follows:—

"It was insoluble in water; it yielded fatty matter to alcohol; the black colour was not changed by the action either of caustic potassa or strong nitric acid; on burning it, a strong odour of decomposing animal matter was perceived. When moistened with distilled water it reddened litmus paper. The ashes obtained by its combustion were very alkaline.

"Under the microscope was seen a confused mass apparently made up of short hairs, epithelial scales, granules and globules of fat.

"I must remark, that the ashes obtained from the second specimen you sent me, as scraped from the face, were not so alkaline as those from the first specimen; nor did the black matter show an acid reaction. This may have been produced, however, as a difference consequent on less of the ordinary cutaneous secretion having become mixed with the carbon. The black matter vomited by the patient, when viewed under the microscope, had much the appearance of broken down animal structure. It was very acid, but contained scarcely any hydrochloric acid. It burned away easily, leaving an ash possessing an alkaline reaction. The carbon from the face was so finely divided that it burned with a vivid combustion, almost having the appearance of deflagration. Carbon is

certainly the colouring principle of this black material, which, in other respects (that is, with the exception of this uncombined element being present), gives all the reactions of a common form of animal matter."

We learn from a postscript to the paper, dated September 29th, four months after the cessation of the secretion, that the patient remained free from any return of the secretion, and was in every respect quite well.

34. *Chlorate of Potash as a remedy for Mercurial Salivation.*—Mr J. ALLISON, in a paper in the *London Medical Gazette*, extols the efficacy of the chlorate of potash as a remedy in mercurial salivation. Mr. A. cautions the practitioner, however, to watch its effects, for if its exhibition be not discontinued, he says, at the proper time, a state of the system may be induced characterized by the phenomena of true inflammation.

35. *Treatment of Epilepsy.*—Dr. BRANSON communicated to the Sheffield Medical Society, Oct. 29th, 1846, "A numerical Analysis of the Treatment of Forty-two Cases of Epilepsy."

After alluding to the importance of the numerical method of investigating disease, introduced by Louis, he stated that the forty-two cases occurred in 3413 registered cases, being in the proportion of one in eighty-one. Eighteen occurred in males—twenty-four in females, which corresponds with the observations of the French pathologists; but is contrary to the opinion of Drs. Watson and Elliotson, who regard the male sex as more liable to epilepsy than the female:—Under the age of 7 there were 4 males, 2 females; from 7 to 14, 6 males, 2 females; from 14 to 21, 2 males, 6 females; from 21 to 31, 4 males, 10 females; from 31 to 41, 2 males, 2 females; from 41 to 51, 0 males, 2 females.

From this it appears that under puberty the male, afterwards the female sex, is most liable. The predisposition which seems to exist in the female sex between the ages of fourteen and thirty-one may be regarded merely as an indication of the hysterical temperament, the extremes of hysteria and epilepsy being separated by a very narrow-line. Of these cases, twenty were centric, and twenty-two eccentric.

Of the eccentric;—6 were connected with amenorrhœa; 7 with intestinal irritation and worms; 2 with undue lactation; 2 with dentition; 1 with menorrhagia; 2 with cessation of the catamenia; 2 with accident—one from a blow on the head inflicted by a schoolmaster, by which the boy was rendered insensible for some weeks, and the other from the breaking of a grinding stone.

One of the cases classed under the head of worms might be called centric, for though the patient parted with a lumbricus teres, the origin of the fit could clearly be traced to fright, from the relation of ghost stories.

Of the eccentric cases:—5 were treated with nitrate of silver; 6 with preparations of steel; 11 with active purgatives, blisters, leeches, turpentine, assafœtida, and vegetable tonics. Of the centric cases:—13 were treated with nitrate of silver; 7 without nitrate of silver; with purgatives, blisters, setons, steel, and valerian.

Of the five eccentric cases treated by nitrate of silver, there were:—cured 1, relieved 1, much relieved 2, not relieved 1.

Of the six treated with steel, there were:—cured 1, relieved 1, much relieved 0, not relieved 4.

Of the eleven treated otherwise, there were:—cured 4, relieved 1, much relieved 0, not relieved 6.

Of the thirteen centric cases treated by nitrate of silver, there were:—cured 0, relieved 4, much relieved 2, not relieved 7.

Of the seven treated by other remedies, there were:—cured 0, relieved 0, much relieved 1, not relieved 6.

The duration of treatment varied from three weeks to seventeen months; the average being about three months. Thus of the eighteen cases of both kinds treated by nitrate of silver, ten derived benefit; whilst of the remaining twenty-four, eight only received benefit, the result being clearly in favour of nitrate of silver as a remedy in epilepsy.

The great objection to the use of this remedy is its well known property of permanently staining the skin, by a continuance of its use—a property which has

been so great an objection in the minds of some eminent physicians, as to almost induce them to discard it, though, at the same time, they acknowledge its efficacy. Dr. Branson had the same fear, until he detected an indication which, he is inclined to think, may prove a valuable safeguard in its administration. The first case in which he observed this indication was that of a man, aged 32, who, in consequence of epilepsy long continued, commenced the use of nitrate of silver on the 24th of November, 1843, and continued it until April, 1845. After taking it about three months, he was evidently relieved. In December, 1844, he had been free from fits for eleven weeks, a much longer period than usual. It occurred to Dr. Branson that the silver, like mercury and lead, might probably show its action on the gums, and on examination he found a dark blue line very similar to that produced by lead, on the edges of both gums close to the teeth. This he pointed out to some of his colleagues, and amongst others, to the late Dr. Favell, who pronounced it to be the effect of lead; but, on examining a case of his own, he found the same line existing. Not then understanding fully this warning indication, Dr. Branson continued the use of the remedy four months longer, at the end of which period he found a very slight duskiness of complexion. In another case in which the complexion had become slightly tinged, there was a well-marked blue line. The line is at first very faint, but gradually assumes a darker tint, and it is well to examine the healthy gum before administering the silver, so as to be able to detect the slightest change of colour. It is of a somewhat blacker hue than that from lead, (in Dr. Branson's opinion, having had the opportunity of comparing them,) and is not so easily produced as that from lead.

In ten cases which have occurred since, he has found its existence in eight. In two cases it was detected at the end of a fortnight. In four cases it was detected at the end of three, four, six, and seven weeks. In the two in which the line was *not* found, the use of the silver was continued for five months. In two of the cases the line was more strongly marked on the lower than on the upper gum.—*Provincial Med. and Surg. Journal*, Nov. 18th, 1846.

DISEASES OF CHILDREN.

36. *Imperforate Anus; Perineal Operation.*—Surgeons of eminence, amongst them Blandin, have been of opinion that incontinence of feces must be the inevitable result of an artificial anus established in the perineum or coccygeal region, *not* in connection with the sphincter ani. The inaccuracy of this opinion is proved by the case of a patient operated on some years ago by Amussat of Paris. This patient has been under the observation of Sir P. Crampton up to the present period, and he states that no such infirmity exists.

To Sir P. Crampton the profession is also indebted for the notice of a case in which the rectum was closed by a fibro-cartilaginous septum, about one inch and a half from its termination, and in which the result of the division of this septum was equally successful with the preceding.

Lumbar Operation.—Dupuytren, Velpeau, and others, maintain that it is difficult, if not impossible, to cut into the colon in children in consequence of the narrowness of the fold of peritoneum forming, as it does, a species of mesocolon, attaching the intestines to the loins; yet Amussat maintains that is easier to perform this operation in children than in adults. At a private meeting at his own house in October last, this distinguished surgeon exhibited a boy, æt. 3½ years, on whom he had performed the lumbar operation on the left side for imperforate anus, on the second day after birth, without opening the peritoneum. The boy, in every respect healthy and well developed, was very gay and continually singing; but the circumstance most remarkable about him was, that he was able to retain perfectly, not only the feces, but intestinal gases also. He occasionally suffers from obstinate constipation, being sometimes eight or ten days without a stool, yet is not inconvenienced by this, which is regarded as a favourable occurrence. To assist in retaining the feces, or gases, a stopper made of an elastic substance is kept in the artificial anus, and is secured by a bandage; in the centre of the stopper is a small aperture for allowing exit to the gas. Immediately after the birth of this child, Larrey and

others made many ineffectual attempts to give exit to the meconium by means of an artificial opening made near to, or through, the natural, yet imperforate, anus. Even Amussat himself had made the attempt, but having found it impracticable to make an opening inferiorly, he immediately decided upon forming an artificial anus in the left lumbar region.

Quite contrary to the general impression, says M. Amussat, there is in children, behind the colon, in the left lumbar region, a space filled with cellular tissue, which allows of the intestine being opened between the two laminæ of the peritoneum; this space is so much the larger the more distended the intestine is, and this is peculiarly the case in children born with the rectum terminating in a *cul de sac*. In the space mentioned there is then neither mesentery nor mesocolon.

Callisen proposed a longitudinal incision, but Amussat prefers a transverse one, into the intestine. His method of performing the operation will be found admirably described in the *Dublin Medical Journal*, vol. xxvi. p. 343. One of the great difficulties attending it is the liability to mistake the small for the large intestine; to distinguish between the two, M. Amussat has proposed a sign, which, if not absolutely diagnostic, is at least a valuable addition to those already known. This sign (first communicated by Sir P. Crampton) rests on the fact, that the small intestines sustain a motion of alternate ascent and descent, corresponding to expiration and inspiration, in which the lumbar colon, which is fixed, does not participate; if, therefore, the exposed intestine present this oscillation it is small intestine; if not, it is presumed to be the colon.*

When about to undertake this or any other operation for imperforate anus, it should not be forgotten that the colon, as well as the rectum, may be congenitally deficient, as in a case recorded by Dr. Lehmann;† in this a puncture an inch deep was made in the usual site of the anus, and was kept open with charpie; the following day a trochar was introduced to the depth of two inches, no feces came away, and the child died; next day, the seventh from birth, on opening the body, the colon and rectum were found altogether absent; the ileum went to the place where the colon should have commenced, and there terminated in a blind sac filled with meconium. The artificial opening had entered the abdomen.—*Battersby's Report in Dublin Quarterly Journal Med. Sci.*, May, 1846.

37. *Hare-Lip*.—The communication of M. Paul Dubois to the Academy of Medicine in Paris (see this Journal for April, 1846, p. 502), has drawn much attention to the question of the propriety of operating for this deformity shortly after birth. Guersent, Junior,‡ agrees with Dubois in thinking that the best time for the operation is immediately after birth; and that if this favourable opportunity be allowed to pass by, it is best to wait till the eighth, tenth, or twelfth year.

He differs in opinion from Dubois as to the propriety of allowing the little patients to suck immediately after the operation; he thinks that during the first two days they should have nothing but a few drops of sugared water and milk put into the mouth, which will afford quite sufficient nourishment to a new-born infant.

Malgaigne§ has operated nine hours after birth, on a child with simple hare-lip complicated with a wide fissure of the palate and of the alveolar process. The operation succeeded perfectly, but the child died on the sixteenth day from diarrhœa and aphthæ. The cicatrix was found to be admirable, and the separation of the bones was so much lessened that, had death not occurred, the fissure would undoubtedly have been quite obliterated.

Encouraged by the success of M. Dubois, M. Baudon|| has operated, and with success, on an infant aged four days, born with double hare-lip and fissure of the palate. He operated first on the right, and at the end of a fortnight on the left side, following exactly the method prescribed by Dubois as to the daily reapplication of the ligatures, and the removal of the needles.

Mestenhäuser,¶ of Raaste, in Silesia, during a practice of thirty-two years, has

* Medical Press, Journal für Kinderkrankheiten, Dezemb. 1845.

† Medicinische Verein: Zeitung—Ranking's Abstract, Feb. 1846.

‡ Journal für Kinderkrankheiten, Oktober, 1845.

§ Ibid., Nov., 1845.

|| Bulletin de l'Académie Royale de Méd., 15 Januar., 1846.

¶ Journal für Kinderkrankheiten, Dez. 1845.

operated for hare-lip eighty times, and prefers the children to be at least ten or twelve weeks old before it is undertaken; but he gives no reason why they should be of that age, which, indeed, is the same as that considered as most eligible by the late Dr. Houston, whose paper in the *Dublin Medical Journal*, vol. xxi.* may be referred to with advantage. Dieffenbach† has operated upon a *thousand* cases, and says that while union has taken place at every age, from a few days after birth up to extreme old age, it is better to wait until dentition is accomplished, as, when performed very early, the cicatrix is apt to yield as growth advances. He prefers the scissors to the scalpel for paring the edges, and, like Dubois, uses fine needles; instead of waxed silk, often employed, he uses thick cotton thread, as he says the former frequently causes the needles to break through the skin, and leave ugly cicatrices, like pock-marks, upon the lip.—*Ibid.*

38. *Pneumonia*.—One of the most important contributions that has been made of late to our knowledge of infantile disease is the essays‡ of MM. Bailey and Legendre on what is usually termed *lobular pneumonia*. They attack the generally received opinion of the inflammatory nature of this condition, which they regard as analogous to the state described by Jörg as *atelectasis pulmonum*. They conceive that this, which they call the "*fœtal state*" of the lung, is not invariably congenital, but that it may supervene afterwards under certain circumstances. The following conclusions embody the more important results of their researches. 1. In the bodies of children who have been rachitic, weakly, or exhausted by previous disease, a number of lobules of the lungs are found in a peculiar state of condensation, similar to that of the fœtal lung. 2. This fœtal state, which consists in occlusion of the vesicles, may result from the mere contractility of the tissue, or may depend on congestion of the vascular network exterior to the vesicles. The former is the simple, the latter the congestive form of this affection. The congestive form is usually met with along the posterior border of the lungs, and generally accompanies catarrhal inflammation of the pulmonary vesicles. 3. In either of these forms of the fœtal state, insufflation reproduces more or less completely the natural condition of the lobules. 4. Though occasionally met with unassociated with inflammation, yet in by far the majority of cases this condition becomes developed under the influence of catarrh and catarrhal pneumonia. 5. When unattended with catarrh and involving only isolated lobules, this condition cannot be detected till after death, but in the new-born infant it usually affects the lobar form, is attended by the physical signs of deficient respiration, and associated with the absence of all signs of constitutional reaction. 6. It is essentially different from hepatization, is produced by causes which interfere with the free performance of respiration, and is to be treated by remedies the reverse of antiphlogistic. 7. Lobular pneumonia has, strictly speaking, no existence, since the action of inflammation is never confined to a single lobule, as is the case with the fœtal state of the lung. *Partial pneumonia* would therefore be a fitter term. 8. Insufflation does not modify the patches of true hepatization, while the bronchi leading to such hepatized nodules are exempt from catarrh; two characters which distinguish partial pneumonia from the lobular engorgements of catarrhal pneumonia. 9. True partial pneumonia is by no means common in children, though when hepatization does occur in children under five years of age, it almost always affects the partial form. The statements, therefore, that have been made with reference to the rarity of lobar pneumonia in infancy are correct; but almost all that has been said about the extreme frequency of lobular pneumonia at that age must be taken as referring to the fœtal state of the lung. 10. Catarrhal pneumonia consists in the extension of the catarrhal inflammation from the bronchi to the pulmonary vesicles. This inflammation may affect healthy lobules, or those in the fœtal state. In the latter case it gives rise to appearances which have led to the supposition that these lobules were the seat of a parenchymatous inflammation. 11. Capillary bronchitis and generalized lobular pneumonia are but two forms of catarrhal pneumonia, which differ according as in the one the catarrhal element or as in the other the

* See this Journal for July, 1842, p. 188, and Oct., 1843, p. 478, et seq.

† Die Operative Chirurgie. Brit. & For. Med. Rev., April, 1844.

‡ Arch. Gén. de Méd. Janv., Févr., Mars, 1844.

lobular congestion predominates. 12. These facts explain why depletion was seldom appropriate in the treatment of what was called lobular pneumonia. [Simple as the process was by which these results were obtained, no one had previously employed insufflation as a means of ascertaining the real nature of lobular pneumonia and carnification of the lung in children. The writer of this report has repeated the experiments of MM. Bailly and Legendre on many occasions, and can fully substantiate the correctness of their statements. An assertion has been made by M. Bouchut, that even true hepatization may be removed by insufflation;* in this, however, he is decidedly wrong. The hepatized portion may sometimes be made to assume a brighter colour, but not to resume the texture of healthy lung, as is the case with lung in the fetal state.] Dr. Posner,† in some remarks on the treatment of pneumonia in childhood, observes that the strictly antiphlogistic treatment suitable to the inflammatory affections of the adult, are no longer appropriate in early life. He applies these observations especially to pneumonia, in the course of which an adynamic stage comes on, requiring the discontinuance of other remedies, and the use of wine and stimulants, for the employment of which he lays down clear and sensible directions.—*West's Report in Brit. and For. Medical Review*, Oct. 1845.

39. *Strychnine in the Treatment of Chorea*.—Prof. TROUSSEAU has treated thirteen cases of chorea with strychnine, ten of them with complete success. He employs the sulphate of strychnine dissolved in syrup, one grain to $\frac{3}{4}$ ijss; of this two and a half drachms are given daily in three doses; and the quantity is every day increased $\frac{3}{4}$ ij, until itching of the scalp and slight muscular stiffness are observed. The cure is generally completed in one month.

40. *Nocturnal Incontinence of Urine*.—There is no infirmity, the treatment of which is so much influenced by individual peculiarities of constitution, as this. In some cases tonics succeed, while in others, presenting to all appearance quite similar conditions, it is necessary to have recourse to stimulants of the muscular fibre, such as the ergot of rye, and nux vomica; blistering in the latter, cold bathing in the former. Finally, there is a class of cases (which cannot *a priori* be distinguished from others) in which the incontinence can be properly treated only by medicines which appear to act specially upon the bladder, and what is very remarkable, amongst these agents some are evidently sedative, others diuretic, &c. This would induce us to believe that incontinence, though regarded generally as a sign of debility of the bladder, consists sometimes, and this more frequently than is commonly imagined, in an excessive degree of nervous and muscular susceptibility of this reservoir. Success has more than once followed the use of sedatives, camphor, digitalis, nitrate potash, benzoic acid, &c., where tonics and stimulants, which at first appeared to be rationally indicated, have failed.‡

Dr. Morand has long been in the habit of using belladonna, internally, in the nocturnal incontinence of urine in children, and with very satisfactory results. It is, however, in the incontinence from debility, only, that this remedy is of use. Its mode of action he is not able to explain; he gives it in increasing doses, which must be continued sometimes for two, three, or four months in succession; and administers it in pills containing each one centigramme ($\frac{1}{10}$ of a grain) of the extract, beginning with one pill, night and morning, for children between four and six years of age. If no effect be produced at the end of a week, he orders a third pill daily at noon; and, after fourteen days, a fourth, if necessary. With children between eight and fifteen years he begins with three pills, increasing the number as above. If signs of narcotism supervene, the medicine must, of course, be for a time suspended.§

Dr. Berenguer has observed that in his neighbourhood, in the department of Tarn, incontinence of urine is often caused by an obstinate, intractable form of intermittent fever. The children brought to him for treatment were aged between

* Op. cit., p. 317.

† Journ. für. Kinderkr., März, 1844.

‡ Journal de Médecine, par Trousseau, Novembre, 1845.

§ Journal für Kinderkrankheiten, December, 1845.

seven and fourteen years. They were anæmic and debilitated. The remedies he found most successful were copaiba, laudanum, and protoxide of iron, made into pills, in the proportion of three parts by weight of the former to six of the latter. Of this mass one pill, weighing from two to three grains, was taken at each meal; and after two or three days an additional one, until the patient came to take ten daily. He found with Trousseau, that iron, particularly in the case of children, deranges the stomach less when taken after than before meals. Along with these *pilula balsamica*, an infusion of the *Folia Juglandis* was ordered as a common drink.*—*Battersby's Report in Dublin Quarterly Journal Med. Sc.*, May, 1846.

41. *Pathological Observations on Tubercular Meningitis.* By Dr. HAMERNJK.—Meningeal tubercles are most frequently observed in the meshes of the pia mater, at or near the base of the brain. They are seldom seen to occupy the convexities of the hemispheres. They present themselves in the first instance as small transparent granulations, which eventually become opaque and yellow. As a general rule, meningeal tubercle is a secondary affection, being seldom observed unaccompanied by tubercular deposition in other organs. It is an extraordinary fact, however, that it is rarely seen in conjunction with pulmonary tubercle.

The disease occurs chiefly in children, but may show itself at any period of life. The following are the principal symptoms in the former class of patients:—Pain in the head, fever, vomiting, delirium, painful contractions of the cervical muscles, with contracted and subsequently dilated pupils. There is considerable tension of the abdominal parietes, more particularly in the region of the spleen; the bowels are costive, the pulse is at first slow, but afterwards quick and variable in force. The external appearance of the patient bespeaks the presence of the tubercular diathesis.

The headache, which is principally confined to the forehead, is one of the most constant symptoms, frequently preceding the appearance of the other symptoms by many days, or even weeks. It is sometimes so intense as to render the patient insensible. This pain is not believed by the author to be caused by the presence of tubercular matter itself, but by the hyperæmia and albuminous exudation, which it produces by irritation of the meningeal tissues. The pain is soon followed by fever, either continuous, or, as is frequently the case, of a remittent type. The obstinate vomiting which is sometimes observed is accounted for by the author on the supposition that the origin of the nervi vagi are compressed or irritated by the products of the meningeal inflammation. The delirium is moderate at the commencement of the disease, but increases as it progresses, until it is replaced by coma. The painful contractions of the cervical muscles is a constant and very characteristic symptom, and is no doubt to be attributed to the irritation of the nerves at the base of the brain. In order to ascertain the presence of this symptom, the author recommends that the patient's head should be moved from side to side, watching at the same time the expression of his countenance. In some instances the spasmodic contractions extend to various parts of the trunk, giving rise to tetanic or epileptic convulsions.

In the commencement of the disease the countenance is suffused, the eyes injected and acutely sensible to light, and the pupil is contracted. As the disease progresses, the pupil becomes dilated, and vision is frequently entirely abolished. The coma, which in most cases closes the scene, appears with different degrees of intensity; it may be intermittent in the first instance, and alternate with delirium; but it becomes permanent previous to death.

The tuberculous affection of the cerebral membranes has several distinct periods of development. It first appears as transparent granulations in the meshes of the pia mater, which afterwards become yellow. In this condition they do not give rise to any pathognomonic symptoms; sooner or later, however, a fresh deposition of granulation takes place, and extends to the space in which the cerebral nerves take their origin. The interior of the ventricles likewise becomes affected by contiguity, and the hydrocephalic action thereby established induces a disturbance of the cerebral functions, with serous infiltration and softening of the central

parts. As long as the ventricles remain intact, the tubercular affection may remain inactive, and if tuberculization of other organs does not ensue, he may entirely recover.

The author considers that it is very difficult, or almost impossible, to distinguish the two first periods of tubercular meningitis (viz., the period of tubercular deposition and that of inflammation) during life; but the last, or hydrocephalic, stage is more readily recognized. When this latter condition occurs we have a loss of sensation and motion in the limbs, blindness, with an apparent projection of the eyeballs, and more or less complete stupor. As long as these symptoms are absent there is no cause for despair; even coma is not necessarily a fatal symptom, as it may occur independently of effusion.

It is of great importance to watch for the first appearance of tubercular meningitis. When a child, which has for some time appeared to lose flesh, and especially if he have previously had scrofulous enlargement of the glands; becomes the subject of pains in the head, we must be on our guard; but other symptoms portend the appearance of tubercular meningitis; in the case of robust children, headache is not of so serious import, as in them it may arise from many other causes. Convulsions, tossing of the hand above the head, and screaming are not specially connected with the tubercular affection, as any kind of exudation at the base of the brain may give rise to the same symptoms; but it is to be remembered, that in nineteen out of twenty cases deposition in this spot is of a tuberculous nature.—*Ranking's Abstract*, Vol. III., from *Prag. Viertel Jahr.* II. 2. *Schmidt's Jahrbucher*, 46 Bd., Heft 3, 1845.

42. *Injections of Quassia to remove Intestinal Worms.*—Dr. SCHULTZ speaks in praise of quassia amara used in the form of injection, for removing ascarides from the intestines, when their presence causes violent pruritus ani. He prepares each injection with four drachms of the quassia, to about four ounces of fluid, and he states that such a solution will invariably procure the expulsion of a large quantity of these entozoa.—*Gaz. des Hopitaux*, 26th Sept. 1846.

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

43. *Treatment of Varicose Veins*, (*London Med. Gaz.*, Aug. 1846.)—F. C. SKEY, Esq., Assistant Surgeon of St. Bartholomew's Hospital, recommends as the most successful method of treating varicose veins, the entire obliteration of the trunks and many of the branches of the saphena veins, both major and minor, by very small caustic issues applied to the projecting veins, however large or numerous they may be. So far as his observation goes, no other plan can be relied on as permanent and entire in its effects; for however absolute may be the destruction of the vein or veins, subjected to ligature, pressure, or division, whichever be the mode adopted, the treatment, where the disease is extensive over the limb, is too limited entirely to remove it. Other veins enlarge, the disease returns, and at the expiration of one or more years the amount of benefit obtained is found incommensurate with the confinement and suffering entailed by the operation. Moreover, past experience points to occasional results of the most serious kind, among which death itself has had its portion.

By the method which Mr. Skey proposes, he says, first, that the function of the vein on which the issue is made is from that hour suspended; and second, that the operation of the issue so applied is unattended with danger of any kind. "The operation," he adds, "appears to be complete and immediate. The current of blood is arrested; nor is the obstruction to the circulation thus caused, apparent in any symptom of congestion resulting from it.

"It may be inferred from this circumstance, that the blood returned to the femoral vein through these cutaneous channels is, in reality, much smaller in quantity than the size of these vessels would lead us to infer. It will, however, be recollected, that in proportion to the enlarged size of the veins, and their contorted form, is the quantity of coagululum contained within them, by which the circulation is necessarily obstructed, and they present the reality of venous aneurisms; i. e., of dilated

veins, partially filled with coagulated blood. The proportion of coagulum doubtless varies a good deal, for we occasionally observe its almost entire absence, the veins retaining the softness on compression, due to the fluidity of their contents. However large and projecting the vein, be its contents fluid or solid, on the part most projecting, an issue may be made, so far as I have seen, without the remotest degree of danger, or any other evil consequence.

"The material I employ for this purpose is the Vienna paste, a compound of quick lime and caustic potash, in the proportion of five of the former to four of the latter. These ingredients are mixed into a paste with spirits of wine; and in these proportions, which I cannot pronounce to be strictly those of the '*Pâte de Vienne*,' a caustic may be applied, which will readily destroy the surface without causing the excessive pain attending the application of the pure potash alone, nitric acid, or other similar agents. Under some circumstances it may be desirable to diminish the proportion of the caustic. The limb should be examined in the upright position of the body; the projecting veins marked with ink to the number requisite, including all the most salient points, in the trunk and branches.

"While in the horizontal posture the places thus marked should be insulated with a circle of plaster of three or four thicknesses, the diameter of which will vary with that of the swelling beneath; but it is very desirable, on all accounts, to make it as small as possible. I have found one-quarter to one-third of an inch to suffice in the plaster, and the issue itself will not exceed the size of a fourpenny-piece, or less.

"The caustic may be removed at the expiration of half an hour, and the leg dressed and rolled lightly. In the course of a week or ten days the eschars come away, and the wounds are healed by ordinary means. But inasmuch as they are not altogether ordinary wounds I wish to say one word on their management.

"Two circumstances should be kept in view militating against their early cicatrization, and sometimes so positively, as to protract the recovery for many weeks, and form a serious objection to the treatment.

"First, the existence of a sore on the leg or foot at a remote distance from the centre of the circulation, which is under all circumstances tedious and protracted in its progress; and secondly, the disease itself infers a languor of circulation unfavourable to early healing.

"In truth, the ulcers occasionally spin out their existence, especially when large, to a very inconvenient duration. I have seen examples, in which one or more of them have defied the curative means employed for three or four months, until, indeed, the patience of the subject of them has been almost exhausted.

"It should be kept in mind that varicose veins owe their existence to inactivity of the action of the heart, or, at least, to some cause tantamount to it; and to this inactivity or want of force, and not to anything specific in the nature of the ulcers, is their duration to be referred.

"Hence the necessity of restricting the issues to the smallest possible size, compatible with the destruction of the vein; and of such any number may be made. The ordinary number I have employed has been six or seven. I have made twelve on one leg at one time.

"The modes of obviating the above evil, and of establishing an active health to the circulation of the limb, are such as are ordinarily employed for this purpose, and by the judicious application of which, the period of healing may be kept nearly within the limits that control them in other persons.

"I often commence the treatment with a course of bark or other tonic agent before the operation, employed for two or three weeks, especially in persons of a feeble constitution. When the eschars come away, the ulcers should not be neglected, but carefully dressed with some form of stimulant. I commonly use the flue of dry lint, or black wash. The removal of the sloughs will be hastened by the application of a roller, applied around the limb from the period of a few days after the operation. I have occasionally made these issues with pure caustic potash, and also with potash once diluted, but the operation is rendered more painful, without any corresponding advantage; and without wishing to attach any marvellous virtues to that form which bears the title of Vienna paste, I think it preferable to any other form I have employed or seen employed.

"The slough is complete, and the pain considerable, but not excessive. If too

large a quantity of spirit be used, and the paste be too soft, it will of course diffuse its influence beyond the circle of the plaster.

"I have had one or two cases, in which considerable pain attended the treatment throughout every stage. The issues were painful in excess, the healing process was unusually painful, and, as occurred in the case of a gentleman now under my care, was protracted to three or four mouths. That this morbid sensibility is connected with the languid state of his circulation I am inclined to believe, because I have observed, that in proportion to the rapidity of the cure, applying that term to the entire treatment, is there less of suffering; or, at least, more tolerance of pain. These, however, are by no means average cases, but exceptions, and they are neither so frequent nor so marked as to present any serious objection to its application. A man applied to me in the out-patient room of St. Bartholomew's Hospital with varicose veins of the leg, for the cure of which had been made an immense slough, as I imagine, by rubbing on or rubbing in the potash stick lengthwise. This slough, which was indeed of noble dimensions, occupied that part of the leg bounded by the knee above, the calf and the tibia below. It was somewhat larger than the palm of my hand!

"This man, who was absent without leave from another hospital, thus gave me the agreeable intimation that my small experiment was being tried on a far grander scale elsewhere. The slough was deep, in proportion to the broad expanse of surface. He expressed some wrath at the severity of the treatment. I confess I thought his indignation, with every regard for the junior members of my profession, not altogether groundless. My attention was confined to the management of the large wound, exposed on the removal of the slough, which occupied several weeks, and, indeed, in the first instance, to his health, which suffered severely. On the healing process being completed, however, no trace of any veins remained. I have treated with small issues some thirty or forty cases, the large majority of which were persons in the lower ranks of life, and many of whom were out-patients of our hospital, but the treatment has not been confined to this class.

"In some few examples the suffering has been remarkably slight, such persons having prosecuted their various occupations from the day of the operation. The average length of confinement required may range from two to three weeks, that of the entire treatment from four to five.

"Where the two extremities are diseased I have allowed an interval of one or two weeks to elapse between the dates of the application to each leg, beginning with the worse. In nearly all the above cases, the relief has been of a very positive kind; in the large majority, the cure has been complete; in two or three, the disease, at the expiration of about two years, has returned in a mitigated form."

44. *Lithotomy.—Death two months after from abscess in pelvis.* By WM. FERGUSSON, Esq.—J. S., aged 74, admitted into King's College Hospital 30th Dec. 1845, has always enjoyed good health, until about twelve months back, when he first perceived symptoms of his present ailments. Six months ago, was sounded by Mr. Fergusson, when a stone was detected. He is now suffering from the usual indications of stone in the bladder, and has come into the hospital to undergo an operation for its extraction.

Jan. 3d, 1846.—Sounded to-day. Stone readily struck. Mr. Fergusson supposed it to be about the size of a chestnut.

10th. To-day, lithotomy has been performed in the usual manner, and a stone, of lithic acid, and of the size predicted, has been removed. It was caught at the first gush of urine, occurring when the forceps were introduced. The operation was speedily and easily accomplished, and the patient suffered very little from the shock.

13th. Doing well, not a single unfavourable symptom.

Feb. 2d. Has gone on prosperously. Wound nearly closed; part of the urine comes through it still, but the greater portion comes by the urethra. A smarting pain which annoyed him as the water passed, has nearly gone; had a dose of castor oil last night, which has produced three or four fluid evacuations; complains of griping pain in the bowels; tongue slightly furred; no thirst; pulse 95, and fuller than usual.

10th. Does not alter much; complains again of scalding pain as the water

passes; urine still comes partly by the wound, and partly by the urethra; bowels irregular—sometimes costive, sometimes loose. Rests pretty well at night; tongue clean; no thirst; pulse 90; appetite moderate; does not gain strength; mind disturbed about some domestic affairs; and he fears that he shall not recover.

18th. Since last report, has remained in much the same condition. The wound seems to have opened up somewhat, and the urine now passes in great part through it. This morning has had a smart rigor; face is now flushed, (half-past one, P. M.) complains of thirst; pulse 95; tongue brown and dry; bowels open.

19th. In the course of the afternoon yesterday, the feverish symptoms above reported almost entirely disappeared; but this morning they have come on again, and he is now much in the same condition.

20th. Got better during last evening, as on the previous one, and has remained so until to-night, when he has again had shivering, and an accession of the other bad symptoms; pulse 100; wound showing a disposition to ulcerate.

21st. A little better to-day, in some respects; pulse, however, 103 and feeble; appetite very indifferent; has had two or three dark-coloured motions, the results of laxatives and an enema.

22d. Much the same as yesterday: wound as open as ever; and for the first time yesterday evening, nurse noticed, that in spite of all her endeavours to keep the bed clean, no sooner were fresh clothes applied, than they were covered with a fetid, dark coloured discharge. This morning, she has ascertained that the discharge alluded to is of a feculent character, and passed entirely by the wound.

24th. Is somewhat better and stronger to-day; was placed on a water-bed yesterday, and feels more comfortable; all the urine passes by the perineum; wound touched with nitrate of silver.

26th. Considerably better to-day; tongue much cleaner; thirst moderate: skin cool; pulse 90-95; countenance not so anxious; appetite somewhat better; takes four ounces of gin, four of wine, and a pint of porter, daily; bowels open; discharge from wound more healthy.

28th. Not so well again; in much the same condition as on the 22d.

March 3d. Has made no improvement; is low and desponding; appetite nearly gone; eats nothing but an egg and a small chop in the course of the day; takes all his gin, wine, and porter; has restless nights, and dozes a great part of the day; slight œdema in right leg.

7th. Much the same; tongue still furred; countenance haggard and sunken; pulse very feeble; urine and feces continue to pass by the wound; œdema still.

10th. Gets worse; sordes collecting about the mouth; pulse more feeble; takes little or no notice of anything going on around him, but answers questions rationally; dozes much, and when awake moans almost constantly. Takes nothing but gin, wine, and porter.

11th. Strength has gradually diminished, and he died at eight o'clock, P. M.

On inspection of the body, sixteen hours after death, the general cavity of the abdomen presented a perfectly healthy appearance. In the pelvis, slight adhesions between the sigmoid flexure of the colon and upper part of the rectum; and lymph, seemingly of a recent date, was effused on the cul-de-sac of the peritoneum, between the rectum and bladder. A lateral section of the pelvis was made, when an extensive abscess was found, stretching from near the incision in the perineum, made during the operation, up as high as the middle height of the sacrum. The interior of this cavity was rough, having ulcerated hollows at various parts; its surface was like that of a sloughing ulcer, and the matter upon it was of a dark unhealthy character, resembling exactly the discharge which the nurse had so frequently observed in the evacuations. The matter was lying in contact with the periosteum, covering the inner surface of the left tuber ischii, and also the lower part of the sacrum. The parts were removed from the pelvis and carefully dissected. The rectum and bladder were laid open, when it was found that the wound in the latter had completely closed, the prostate gland seeming as if it had never been touched. In the membranous portion of the urethra, a small opening, such as would admit the point of an ordinary sized sound, was found communicating in front with the wound, and below, with the cavity of the abscess. In the track of the original wound, the rectum was quite healthy, and of its natural thickness; higher up, the abscess came into close contact with it, and near the upper end of the

abscess, about six inches from the ends, the peritoneum seemed to have been raised from the anterior surface of the gut, at which part there were two small ulcerated openings into the rectum, through which the feces had evidently passed into the abscess, and so through the wound in the perineum.

Remarks.—Mr. Fergusson stated his belief that it was occasionally the custom with some surgeons, who were anxious to have the mortality resulting from lithotomy, as performed by themselves, appear very small, to attribute death occurring in such a case as this to any other cause than the true one—the operation itself; and here such parties would say the patient had died of an abscess in the pelvis; for it would be observed, that the wound in the neck of the bladder—the most dangerous part in the incision for lithotomy—had entirely healed. And besides, the external wound had at one time nearly healed too, the closure being such, that, as in the ordinary cases of success, most of the urine had come away by the natural passage about the tenth or twelfth day. There was a sophistry in this, however, of which he did not approve, and he thought it best at once to admit that the death resulted from lithotomy; in other words, that the operation had been unsuccessful. There were several peculiar and interesting features in this case which had puzzled him very much, for its progress was very different from the usual course of fatal cases. Everything had gone on prosperously up to a period when all danger was usually deemed past. Within the first three weeks the wound had well nigh closed, and the water came chiefly by the urethra. After this, things for about a fortnight remained much the same, when a train of bad symptoms set in, and ultimately death supervened at the lapse of two months after the operation. The cause of the unfavourable symptoms latterly had been overlooked by him. On more than one occasion he had supposed that the patient had got ordinary fever, and thus, again, from the symptoms disappearing so rapidly, he had concluded he was wrong. He certainly had been most inclined to think that, combined with the effects of the operation, the great age of the patient was the principal cause of the extreme prostration preceding death. With the exception of the rigors, there had been little or nothing to induce the suspicion that an abscess was forming, and the character of the matter which came by the wound was not likely to induce any such view. That there was mischief somewhere in the track of the wound seemed evident enough, both from its slow healing, or rather from its opening up again, as also from the feculent character of the discharges observed towards the last. Even this feature appeared strange to him; for there never had been any indication that the rectum had been wounded during the operation; nor could he, with the finger passed per anum, detect any opening in the gut, either at the under surface of the track of the wound, or where the finger could reach. Dissection, however, had revealed all. The immediate cause of death had evidently been the extensive abscess, and it was now clearly seen that the opening, or rather openings, (for there were two,) into the rectum had been the result of ulceration, at a point far distant from the course of the knife, finger, or instruments, used during the operation.

Such an abscess, and occurring under such circumstances, was both unusual and unlooked for, and in his own practice he had not met with a similar case. He had seen patients die of inflammation, of urinary and of purulent infiltration; but usually such results of lithotomy, or any other interference with the urethra, perineum, or rectum, occurred very speedily after the primary mischief. Here, however, the patient seemed to have got over all the early dangers, yet a larger ulcerated cavity was found contiguous to the wound than could almost be imagined under any circumstances. In his opinion, the mischief had been induced by the urine causing a little unhealthy inflammation at a certain part of the wound; ulceration had then supervened, and as the space increased, a large quantity of urine had remained on the surface, causing further mischief; and so, at last, a large space had been made, and even the rectum itself had been implicated. In all probability, had the patient been younger, the inflammation would have been of a more adhesive character, and there would have been no such ravages. It could not be said that there was urinary infiltration, yet, in all probability, the urine had caused all the mischief after the operation. The danger from the urine producing mischief arose chiefly within the first few hours, or days, at most; here it had seemingly not caused any harm until the lapse of weeks. If there had been infiltra-

tion within the first two or three days, he might have attributed it to the circumstance of not using a tube in the wound to let the urine flow away; but this was a practice pursued by so few, while infiltration occurred so very rarely in the numerous instances where a tube was not used, that he could not lay any blame here. In fact, he felt unable to account for what had happened here, and could only draw the attention of his pupils to all the features of the case, as giving an example of an unsuccessful issue to the operation of lithotomy. He would only further remind them, that in looking as to what should be done for this patient, when an operation was resolved upon, he had deemed lithotomy more likely to be successful than lithotripsy. What might have been the result, if the latter process had been followed, no one could say. Certainly, it could not have been worse than that which they had witnessed.—*Lancet*, Sept. 19th, 1846.

45. *Lithotomy in the Female*.—*New operation*. Mary Ann H——, admitted into King's College Hospital October 8th, 1845. Has suffered from symptoms of stone for the last two years, and now has constant irritation in the bladder, with inability to retain the urine, which dribbles away, and keeps the patient's clothes always wet. A large stone can be readily detected with the sound.

Oct. 11th.—To-day, at half-past one P. M., Mr. Fergusson removed the stone. The patient was placed on the table, and tied in the usual way for lithotomy; a deeply-grooved straight director was introduced into the bladder, the groove pointing downwards, and to the left side; a straight, probe-pointed bistoury was then passed along it, and an incision about half an inch in extent was made towards the tuberosity of the ischium, the wound being limited to the anterior half of the urethra. A slight nick was next made in the right side of the orifice of the urethra, and the director being withdrawn, the point of the left forefinger was introduced into the wound, and then gradually insinuated into the bladder, at the same time dilating the posterior half of the urethra. The finger having touched the stone, was then withdrawn; a small lithotomy forceps was now introduced, when the stone was immediately seized, and, though the blades slipped once, was speedily removed. It was of an oval form, about the size of a pigeon's egg, and composed chiefly of lithic acid.—Seven P. M.: Patient comfortable, and in good spirits. Water passes freely, and without much pain.

13th.—Going on favourably, and is able to retain her water for four hours.

15th.—Much as before; retains her water for four or five hours during the day, but wets the bed at night.

17th.—Wound scarcely perceptible; passage of urine gives no pain whatever.

31st.—Gone on favourably since the last report; retains her urine at will during the day, but wets the bed at night. Discharged, cured.

Remarks.—Mr. Fergusson called attention to the peculiar operation which had been performed in this instance, differing, as he stated, in some important respects, from the operations usually resorted to in the female. There had been here, as in most other instances, a choice of means of cure. As to lithotripsy, he did not think it eligible in this case, chiefly perhaps, on account of the timidity of the patient, and her consequent restlessness when touched by the surgeon. For the same reasons, dilatation did not appear practicable; and he had therefore to adopt a proceeding whereby he could at once remove the stone while the patient was held steady by main force. The operation which he had performed was of a compound character, the opening necessary for the extraction of the stone having been made partly by incision and partly by dilatation. He had described this operation ever since he had been a teacher, and was disposed to think it the best mode of relieving a female from stone of all with which he was acquainted. In the process by dilatation, he had remarked, both on the living and the dead body, how slowly the external orifice of the urethra dilated, and how much pain it caused; indeed, the tissues in this part seemed incapable of dilating to any extent likely to permit the passage of a large stone, unless the force were very gradually applied. Towards the back part of the passage, however, and at the neck of the bladder, the strictures yielded more readily, and they seemed also to regain their tone with much more facility. It was an error to suppose that dilatation, in whatever way performed, invariably saved the patient from dribbling of urine ever after. Very recently, a case proving the reverse had been under notice in the

hospital. A girl, nine years of age, had a stone extracted, some years before, by dilatation; but she never since had power over the stream of urine. In lithotomy, as usually performed, there was even a greater risk of this unhappy consequence; and although in either method, especially by dilatation, many cases were familiar to the profession when no such results had ensued, it was yet felt by most practical men that there was great uncertainty as to what might follow any of the usual proceedings in such cases.

After describing the various operations which had been proposed for lithotomy in the female, Mr. Fergusson stated his conviction, that while there was less positive danger in the proceeding which he had followed in this instance, than in some of the others described in ordinary surgical works, there was, perhaps, greater chance of the parts regaining tone sufficient to give command at will over the stream of urine. The incision in the anterior part of the urethra produced, in his opinion, less injury than dilatation, while, by not applying the knife to the back part of the passage, or to the neck of the bladder, there was positively less risk of severe and dangerous inflammation, while the muscular structures at the neck of the bladder, in the viscus itself, which doubtless gave the power of retaining the water, more speedily regained their natural condition, than after division with the knife. The little notch which he had made on the other side of the urethra might or might not be made, according to circumstances. Here the stone seemed so large in proportion to the parts, that he had thought it advisable; but with a smaller stone, he should extract without it. It would be unreasonable to conclude, from this single case, that this operation was the best that could be performed; possibly the same happy results might, in this instance, have followed any other proceeding; but it appeared to him that there was so much good in this operation, and apparently so little evil, that it was well worthy of further trial.—*Lancet*, Sept. 12th, 1846.

46. *Nerve Ganglions after amputation.*—*Minute anatomy.*—Mr. DUMVILLE produced to the Manchester Pathological Society, a case in which ganglions formed after amputation on the extremities of the median, ulnar, and musculo-spiral nerve, which ganglia occasioned the patient excruciating agony for years, and the suffering so disordered the faculties of the mind that he several times contemplated suicide, but ultimately recovered after a second amputation.

Thomas Parry, aged 22 years, fractured his arm by a fall twelve years ago. The fracture was set immediately, and the limb secured with splints. He neglected, however, to have the dressings removed until after the lapse of eight days, when the arm sphacelated; and six weeks after the fall, amputation was performed by a neighbouring surgeon. This operation did not prove so successful as could have been desired, for the muscles receded, and left a painful stump of a conical shape. In the course of three years the pain had much increased in severity, and three highly sensitive ganglions had formed at the divided extremities of the nerves, which gradually grew larger, and the pain became more and more agonizing, and his mind in consequence was impaired.

He first came under Mr. Dumville's care four years ago; he was then quite insane, and imagined himself under satanic influence; a belief which no reasoning could dispel. The stump was so sensitive that the slightest touch, even a drop of tepid water falling upon it, produced intolerable agony, and he felt as if the amputated fingers were constantly at work; as if twisted and cramped, especially when he used the remaining hand.

Mr. Dumville amputated the stump on the 29th of March, 1843. The pain ceased after the operation, and the patient gradually became disabused of his insane fears, and was restored to a perfectly sound state of mind.

The nerves were found, after amputation, somewhat reddened, enlarged, indurated, and terminated by expansion in olive-shaped bulbs or ganglia invested with the thickened neurilemma. The nerve-tubes, before entering the ganglia, were entire and of the normal size, but the substance of the ganglia themselves consisted of finely granular matter, in which were seen innumerable fibres of extreme fineness and delicacy, extending in every direction, like as in well organized false membrane. Judging from these microscopical appearances the pain would seem, in such cases, to depend upon the following causes:—first, the

existence of a morbid action allied to an inflammatory state, acting as a constant source of vital injury or vito-chemical irritation; and, second, the presense of an inflammatory product both infiltrating and compressing the individual nerve tubes.

Mr. Dumville, arguing from the above premises, suggested a very proper precaution for the management of these cases,—namely, to divide the nerves as far above the ganglia as can be done, in order, if possible, to get beyond the disease.

The evident connection between the local irritation and the mental alienation in this case, shows the importance of always looking for such local disease, as a possible cause of mental derangements in other instances.—*Lond. Med. Gaz.*, Aug., 1846.

47. *Dislocation of the Hip in very young children.*—This is a rather rare accident in early life, and the following cases related by Mr. ORMEROD (*Clinical Collections and Observations in Surgery, made during an attendance on the Surgical Practice of St. Bartholomew's Hospital*), are therefore worthy of notice:

“A girl, five and a half years old, was admitted under Mr. Stanley, with a dislocated hip. At 6, P. M., on the previous day, a portion of earth fell upon her. On admission the left lower limb was shortened, inverted, the toes resting upon the great toe of the right foot: the head of the bone felt at the upper and back part of the sciatic notch. No abduction could be performed. Extension was made without pulleys for two minutes, when the bone slipped in, and remained there. Recovery was complete; she went out, walking quite well, in about three weeks.

“A boy, aged five years, was admitted under Mr. Vincent, labouring under a dislocation of the left thigh-bone. The limb was colder than the opposite one, and of a bluish colour; everted, not very movable; the knee and groin both bent, and the limb resting on the toe. When the child lay on the back, the head of the bone could hardly be felt; but on making him stand up, the head of the bone could be felt beneath the psoas and iliacus, with the artery running over it. The want of any prominence, from the great trochanter being carried inwards, was very marked, as also a sinking in at the lower edge of the gluteus maximus muscle. The head of the bone could hardly be felt when the child lay down, but could be distinctly rotated with the thigh-bone when it stood up. No crepitus was anywhere found. The accident happened by the child falling on its legs whilst riding on the beam of a cart, which suddenly proceeded.

“The limb was extended with little benefit till the thigh was well adducted, when the bone quietly slipped into its socket, and the blue colour of the limb began to subside directly. The limb now became quite natural in relations, motions, and form. He went out in about three weeks quite well.”

48. *Diagnosis and Treatment of difficult cases of Fracture of the Limbs.*—Among the subjects to which Mr. STANLEY particularly directs the attention of the pupils, there are few on which more stress is laid than the diagnosis and treatment of difficult cases of fracture of the limbs. Amongst these points are included, firstly, the importance of considering the degree of pain in the situation of a supposed fracture, and its great value in cases where crepitus is absent. Secondly, the necessity of bearing in mind to how great a degree many fractures gradually right themselves, and the little that is often gained by attempts to place everything straight at an early period; and thirdly, the importance of firm œdema rapidly forming over a supposed fracture. These are points not simply told in the clinical theatre, but shown as the return of the accident weeks successively comes round. The degree of pain caused by the necessary examination of an injured limb sometimes assists in distinguishing a fracture from a simple bruise. Although a mere strain or bruise is occasionally accompanied with the greatest suffering, yet extreme pain on the slightest degree of motion, more especially when that motion is not accompanied with extension of any ligaments, is in itself a most important indication in favour of the existence of fracture. This extreme pain, and the rapidly forming but well-defined œdema, are more frequently found in injury of the bones which lie superficially, than in fractures amongst the deeper

seated parts; and if any bones were selected as those in which fracture was attended with extreme pain on slight motion, the metacarpal and metatarsal bones, with their phalanges, or the lower ends of the radius, tibia, and fibula, might be chosen. Where the pain is of a pricking character, or like that produced by the presence of a foreign body wounding the part, the character of the pain is distinguished from the dull aching of a sprain, and is in favour of fracture; but in the great majority of injuries, where any doubt of its nature exists, the patients are unable to describe the peculiarities of their pains and suffering. Instances of but little suffering resulting from fracture occasionally, however, present themselves in children as well as in adults. The little suffering not uncommonly experienced by children from fracture of the collar-bone is sometimes very marked, and a labouring man, with fracture of both bones of the fore-arm, has been seen to clench his fist and brandish his arm in a fighting attitude, without any apparent uneasiness.

In 1844, a boy came in with an injured leg; he could not walk, and screamed in agony when his leg was examined; but there was no crepitus or yielding. There was, however, pain, and the leg was puffy over the painful part. Mr. Stanley considered it to be broken. In about two or three weeks the limb had glided a little forwards at this line, and showed clearly that it had been broken. The case did well.

In 1844 an old woman broke her leg. The crepitus could not be felt for the first week; there were, however, great pain and yielding of the bone on trying to bend it at the painful part. At the end of one week crepitus could be readily felt.

A woman (1840-41), was knocked down, and a wheel went over her leg, crushing the skin. She was admitted under Mr. Lawrence. There was no clear crepitus or fracture on the most attentive examination, but the limb was placed carefully on its side and watched. In a few days the upper portion came forward, and pressing against the injured skin, came through. The leg united well.

These are a few cases out of many which have well illustrated the facts, that a bone may be broken and its fracture be unaccompanied by the common signs, and that bones often come of themselves into that position in which a surgeon cannot place them at an early period, and would often do harm by attempting to effect.—*Ormerod's Clinical Collections and Observations.*

49. *Straw Splints for Fractures.*—At a recent meeting of the Surgical Society of Ireland, Mr. TUFFNELL exhibited a form of splint which he had been in the habit of using for some years, and which he believed had first been invented by Baron Larrey. It is made by filling a linen bag of the size of the splint required, with unbroken wheat straw, that used in the country for thatching being the best. The straw must be cut off at the length to fit the limb, and the open end of the bag sewn up. The splint thus made combines the double advantage of being both splint and pad in one, and possesses the following advantage over the wooden or whalebone splints commonly in use. When lotions are used to subdue the inflammation in a recent fracture, the apparatus need not be removed from the limb, as evaporation takes place as readily through the straw as if the limb was lying unconfined. No padding being used, the hard lumps formed by tow or wool that has been wetted and allowed to dry, and which cause such pain and inconvenience to the patient, are avoided; and if undue pressure is sustained by any projecting process of bone, by inserting the point of the finger, and rolling the straws one upon the other, a hollow is at once formed for the part. In fractures of the upper arm, Mr. Tuffnell said he had, in using the wooden splints and pads, found great inconvenience from the difficulty of keeping the four angles in contact, especially at night, and in muscular arms, the edge of one splint rolling over the other, and at once displacing the whole apparatus; whilst the straw splints, when bound on the limb, so embraced it as to keep up one uniform pressure on all sides, and in fractures of the forearm acted most beneficially by pressing the muscles into the interosseous space more and more as the fillets or bandages were tightened. These, he said, were advantages he had found to result from the common use of the splints; but what he had to adduce most in their favour was the power they gave to the military surgeon and country practitioner of forming at once, in almost every situation in which he could be placed, an efficient contrivance for the treat-

ment of all ordinary fractures; whilst for hospital practice their cheapness was of no inconsiderable advantage; and, in compound fractures, by directing the nurse to take out the soiled straw, wash, and refit the case with fresh, at each dressing the surgeon was enabled, at the very least expense, to have a clean apparatus, and thus avoid the necessity of keeping a source of effluvia near the patient, at a period when his recovery and well-being so mainly depend upon pure ventilation and fresh air. In fractures of the forearm, by substituting a fillet and buckle for the ordinary tape or bandage, the patient is enabled to tighten or relax the pressure of the splint according to his own sensations of uneasiness or comfort, and the lightness and regulated pressure make them much less irksome than the old-fashioned wooden splint.

Mr. M'Coy approved very highly of the apparatus; and Dr. Jacob said it appeared to him to be a most admirable contrivance. At the first glance, one might be inclined to think it not sufficiently strong; but, on testing the apparatus, it was found a most powerful one: and, as Mr. Tuffnell had remarked, the facility of moving the straw, so as to accommodate the splint to the inequalities of the limb, was a very marked advantage. He looked on Mr. Tuffnell's suggestions as most valuable for securing an extemporaneous mode of coaptation, more particularly to gentlemen who are to practice in the country, where there is generally so much difficulty in persons accommodating themselves in urgent cases, sudden as fractures usually are. He had seen an old hat furnish a very efficient splint in the small fractures of children. Then there was the cover of an old book, but even in obtaining this there is often a good deal of difficulty when the inmates of the house a man is called to, are not of literary habits. A capital extemporaneous splint, which Dr. Jacob had seen used in the fractures of children, was the fresh bark of a tree taken off while the sap is rising. It fits admirably, just like a paste-board soaked in water. He had seen a case managed in this way by a common bone-setter, and the whole thing turned out in a way that would do credit to any of our metropolitan surgeons.—*Dublin Med. Press.*

50. *Fractures of the Metacarpal Bones.*—By M. LAMAEESTRE, (*Journal de Chirurgie*, Oct. 1846.)—The following are the leading points in this memoir:

The most common cause of fracture of the metacarpal bones is a fall on the closed hand: it is the fourth metacarpal bone which is most frequently fractured. The displacement is almost constantly productive of a protrusion of the fracture on the back of the hand; but M. Malgaigne satisfactorily establishes that this protrusion is entirely due to the displacement of the inferior fragment, which is obliquely forced backwards at the spot of the injury, and dragged down towards the palm of the hand at its phalangeal extremity. As to the treatment of the deformity, Sir A. Cooper recommends a pad to be placed in the palm, and to be fixed there with an appropriate bandage. Boyer advises a splint to be applied both on the dorsal and palmar aspect of the hand, descending down to the extremity of the finger. B. Bell applied a long splint applied from the elbow to the fingers. M. Malgaigne considers these various modes of dressing the fracture as insufficient to fulfil their object, and states them to be injurious on account of the protracted immobility to which they condemn the joints; he places on the dorsal surface of the hand a thick compress, on the spot of the fracture, and over the compress a transversal splint protruding at least one inch beyond either side of the hand. The same application is made to the anterior face of the extremity, only a little lower, in order to press backwards the phalangeal end of the injured bone; the two splints are then closely united at their free extremities. M. Lamaestre has seen nine cases of fracture, with displacement, satisfactorily treated by this method.

51. *Displacement of the Vertebrae cured by Extension.* By WILLIAM H. CROWFOOT, Esq.—“On the 5th of July, 1839, Anthony Callow, aged 42, by occupation a coachman, whilst driving a carriage through a covered gateway, was caught by a beam on the back of his neck, as he was in the act of stooping forwards, and the horse rushing on, he was bent completely double. On the removal of the poor fellow from the box of the carriage, his lower extremities were found to be perfectly paralyzed. On an examination of the back there was discovered a great

deformity about the ninth, tenth, eleventh, and twelfth dorsal vertebræ, occasioned by an increased posterior curvature; the spinous processes of the ninth and tenth vertebræ were divided from each other considerably beyond their usual distance, the body of the ninth vertebra having been forced forward, whilst that of the tenth projected backwards. The abdomen became almost immediately distended; the ability to empty the bladder was lost, and there was a total deprivation of the power of voluntary motion and of sensation in the lower extremities. No doubt existed in my own mind, nor in those of my son, and of the respectable professional men amongst whom I have the happiness to live, who were present, that displacement of the bones of the spine had taken place, and that there was pressure on the spinal cord. There was too much reason to fear that this case would terminate, as all similar ones which I had seen had done—fatally. Unwilling, however, to leave the poor fellow, who had but recently left my own service, without making some decided effort to relieve him, we determined to try the effect of cautious extension, and I applied it in the following manner:—

“After the bowels had been emptied by an enema, and the bladder by the catheter, a broad and well padded belt was passed around the chest, and under the arms, and it was fixed from behind to a strong staple at the upper end of the frame of the bed; another equally broad and well-padded belt was buckled round the body, just above the pelvis; this latter belt had two very strong straps attached to it, one before, the other behind, each having a strong iron ring at its extremity; these straps were brought between the thighs, care having been taken to avoid pressure on the penis and scrotum, and made fast to the pulleys. A gradual but considerable extension was now made, whilst some slight attempts were made by the pressure of the fingers to aid the replacement of the bones. The deformity of the spine was evidently diminished by the extension, whilst the pressure on the posterior tractus of the spinal cord was so far relieved, as to permit an almost immediate restoration of a certain degree of sensibility in the parts below the injury, where it had been entirely lost; but there was not the slightest return of the power of voluntary motion. An important point had, however, been gained, and a hope was excited that the spinal cord, partially relieved as it was, might gradually accommodate itself to the still altered form of the bony canal, and ultimately resume its functions, provided proper means were used to retain the amended positions of the bones, and to obviate the inflammation which could not fail to follow such an accident.

“The patient was placed on his back on a firm bed in such a manner that his feces could be removed without his being disturbed, and the most perfect rest was enjoined. For the first nine or ten days from six to ten ounces of blood were daily taken away from each side of the spine, alternately, with great relief to the feelings of the patient, who was most cautiously raised on his side by the sheet for the purpose, and afterwards as cautiously replaced on his back. The catheter was introduced two or three times a day for about a fortnight, when its use was no longer required. At this time the patient was accidentally seen by my old and valued friend Mr. Dalrymple, of Norwich, who was not very sanguine as to the ultimate success of the treatment, though well satisfied with what had been already accomplished. The case went on favourably; the patient steadily improved, and at the end of three weeks he could slightly move the great toe of the right foot; in a few days after, that of the left foot, and gradually this power extended over the other muscles of the lower extremities and pelvis. At the end of two months from the time of the accident, Callow was able to support himself upon his legs with but little assistance; he slowly recovered the use of his lower limbs, and at the end of a twelvemonth was again able to mount his box, and take care of his horses. Horse exercise, or walking any great distance, is apt to produce pain in the loins, and some degree of numbness in the limbs, but he is otherwise in perfect health, and is one of the best grooms in the country. There remains still some degree of deformity about the injured part, and an unusual separation between the spinous processes of the ninth and tenth vertebræ.”—*Prov. Med. and Surg. Journ.*, Oct. 7, 1846, and *Trans. Prov. Med. and Surg. Soc.*, vol. xi.

52. *Cure of Popliteal Aneurism by Compression.*—The *Dublin Quarterly Journal of Medical Science*, for August last, contains some very interesting observations by the Editor on the history of the cure of popliteal aneurism by compression. We extract from it the following tabulated arrangement of all the cases of femoral and popliteal aneurisms which have been treated by pressure on the femoral artery in Great Britain and Ireland, with some remarks on the table and the general conclusions of the author.

No.	Date.	Surgeon.	Locality.	Description of Aneurism.	Age of Patient.	Result.
1	1820	Mr. Todd,	Dublin,	Popliteal,	30	Fem. art. tied.
2	"	"	"	"	27	"
3	1825	"	"	"	36	Cured.
4	1824	Mr. Duggan,	"	Femoral,	33	"
5	1826	Mr. Cusack,	"	Popliteal,	—	Fem. art. tied.
6	1843	"	"	"	55	Cured.
7	1844	"	"	"	26	"
8	1846	"	"	"	33	"
9	1830	Sir P. Crampton,	"	Femoral,	36	"
10	1842	Mr. Hutton,	"	Popliteal,	30	"
11	1843	Dr. Bellingham,	"	"	32	"
12	1844	"	"	Femoral,	35	"
13	1846	"	"	Popliteal,	40	Doubtful.
14	1843	Mr. Liston,	London,	Femoral,	30	Cured.
15	1844	"	"	"	53	"
16	1843	Dr. Harrison,	Dublin,	Popliteal,	29	"
17	1844	Mr. Kirby,	"	"	28	"
18	"	Mr. Allen,	Haslar Hospl.	"	32	"
19	"	Mr. Greatrex,	London,	"	27	"
20	"	Mr. Porter,	Dublin,	"	29	"
21	1845	"	"	"	—	"
22	1844	Mr. Jolley,	Torbay,	"	28	"
23	1843	Mr. Harrison,	Bristol,	"	42	Fem. art. tied.
24	1845	Mr. Dartnell,	Chatham,	"	38	Cured.
25	1846	Mr. Mackern,	Litherland,	Femoral,	30	"
26	1845	Mr. Storks,	London,	Popliteal,	32	"
27	1846	"	"	"	24	"
28	1845	Mr. O'Ferrall,	Dublin,	"	32	"
29	1846	"	"	"	37	"

From this table it would appear, that twenty-nine cases of aneurism—six femoral and twenty-three popliteal—have been treated by pressure upon the artery leading to the sac; of which number, nineteen occurred in Dublin; and that in four, the femoral artery was tied, chiefly from want of confidence in pressure, on the part of either surgeon or patient, and that in twenty-five instances this mode of treatment was successful. Mr. Todd's three cases, Sir Philip Crampton's case, Mr. Duggan's case, Mr. Cusack's case in 1826, and also that of Dr. Molloy, and Mr. O'Ferrall's two cases, have not been before introduced into any of the notices or tables of this operation which have appeared in the periodicals. Dr. Bellingham's first two cases occurred in the same individual: his third I have with his own permission, marked doubtful, because the patient died of erysipelas during the process of cure,—the subject of it was originally under the care of Mr. Cusack. Mr. O'Ferrall's cases will appear at length in our November number.

Sir P. Crampton's second case has not been classed in the foregoing table, inasmuch as it was one of accidental hemorrhage in which the pressure was resorted to from unavoidable necessity, and not originally employed as a means of cure; and Mr. Adrian's case, mentioned in the *Medico-Chirurgical Transactions*, has not been sufficiently detailed, to entitle its being placed in the foregoing category. The subject of Mr. Cusack's third case died suddenly of disease of the heart before he left the hospital—this, however, in no wise militates against the applicability of his treatment, even in that individual case. The man died *cured* of his

aneurism, and the subsequent examination of the parts concerned in that disease was of vast importance in the explanation of the mode of cure. The propriety of applying pressure in this case has been questioned, and we think most unjustly. Had the usual operation of tying the artery been resorted to—an operation periling life—in such a case we do think the surgeon would be reprehensible. But it is well known that many persons with diseased hearts and diseased arterial systems, will live for years after the supervention of such; and are these persons to be allowed to die of the bursting of an external aneurism, when a perfectly bloodless procedure (for it is not an operation), and one, as far as we yet know, unaccompanied with any risk; together with rest; the use of the tincture of digitalis; a low regimen; and the preservation of the horizontal position for a fortnight or three weeks, may prolong their lives for years?

In ten instances, local pressure on the aneurismal tumour by means of pads and bandages was used in addition to the pressure by the instrument. We have omitted the column for the "time occupied in the treatment before *bruit* and pulsation had ceased," inserted in Mr. Stork's table, because no fair standard can be at present established, nor any practical deduction drawn from it. The time has varied from ninety-one days to five; but an examination of the published cases, and even of some of those detailed in this paper, will show how irregularly the pressure was applied; and it is quite apparent that its removal at a *particular time*, even for a few minutes, and allowing the flow of blood through the sac again to take place, will undo all that had been before affected. It is, moreover, very possible that in many instances the pressure has been continued far longer than was necessary. Should we not first apply a very moderate degree of pressure, so as to accustom the patient to bear it with comfort, and then gradually increase it to a particular point, when it is possible that the artery may have become accustomed to it, and the collateral circulation become increased; then put it down firmly for a few hours, and the cure may be so far accomplished that further pressure may be unnecessary? We would suggest to those engaged in the treatment of aneurisms by compression, or in the manufacture of instruments to effect that purpose, that an apparatus made sufficiently light and small, so as not to prevent the patient turning in bed, and provided with a number of pads (three at the least), adapted along the course of the artery, so that several points of pressure could be made in succession, would be a great desideratum.

Although we are but in the infancy of this very great improvement, yet from the foregoing observations, as well as what has been already published by others on the subject, the following conclusions may, we think, be drawn:

I. That numerous attempts have been made, during the present century, to cure external aneurisms, popliteal in particular, by means of pressure upon the artery between the sac, and the centre of the circulation; and that various instruments have been contrived to effect this purpose.

II. That by such means, it is more than probable that occasional cures were made.

III. That popliteal aneurism seems the most favourable for the application of pressure.

IV. That to Mr. Todd is due the merit of having first fairly tried, and successfully applied the pressure treatment of popliteal aneurism in these kingdoms.

V. That no permanent position was established for the treatment of aneurism by compression, until the cases treated by Mr. Hutton, Mr. Cusack, and Dr. Bellingham, were brought before the profession at the Surgical Society of Ireland, in 1843.

VI. That up to this period the instruments made to effect the compression were defective, inasmuch as they applied the pressure on but one point.

VII. That the improvement introduced by Dr. Harrison's patient, Hoey, of applying a number of clamps along the course of the artery, has done much to remedy this defect, and has afforded surgeons a very valuable hint on the subject.

VIII. That from the history of cases recorded by Professor Porter and Mr. Cusack, it would appear that it is not necessary completely to arrest the pulsation in the tumour, by pressure on the artery, in order to produce a cure.

IX. That this cure is effected by means of a coagulum formed in the sac, either

by lessening the current of blood flowing through the artery, or by some peculiar power of coagulation imparted to the blood, aided by the contraction of the sac.

X. That in order to effect this coagulation, galvanism has been employed, and appears to hold out hopes of success.

XI. That from dissections we learn, that it is not necessary to obliterate the artery between the point of pressure and the sac, in order to produce this coagulum, and effect a cure.

XII. That pressure has been tried, and produced coagulation, even when applied to the distal side of the sac.

53. *Treatment of certain Aneurisms by Galvano-puncture.*—The *Gazette Médicale de Paris*, (Nos. 38 and 40, for 1846,) contains a memoir on this subject by M. PETREQUIN, of Lyons, who claims the merit of having been the first to suggest this new method of treatment. We copy from the *Monthly Journ. Med. Sci.* (Nov., 1846), an analysis of this memoir.

M. Petrequin gives the following account of his discovery:—The first results of his inquiries, he says, he published on the 25th of October, 1845, in his "*Mélanges de Chirurgie*," and "since then I have not ceased to labour at the subject. Everything was to produce in the plan and in the detail, as it is easy to judge; and I have the satisfaction of seeing that experimental observation has throughout confirmed all my anticipations." He was first led to think of resorting to chemical means for the coagulation of the blood in an aneurismal tumour, by the case of a young man in whom he believed he had detected, by the stethoscope, an aneurism of the ophthalmic artery, the consequence of an injury sustained by falling on his head from a considerable height. Of these chemical means galvanism seemed the only one adapted to such a case as he had under treatment. He knew that electricity had been spoken of in connection with the treatment of aneurism. On inquiry he found that all that had been said on the subject amounted to the following brief sentence, published by MM. Marjolin and P. H. Berard, in 1833:—"It has been suggested that the coagulation of the blood might be effected in the sac by the aid of electricity transmitted into it by needles plunged into the tumour. This idea, which we owe to M. Pravaz, has not hitherto, as far as we know, been carried into execution." M. Petrequin now applied to M. Pravaz himself and learned from him that no trials had been made bearing on this subject, either on man or other animals. M. Petrequin's first trial, in the case of supposed aneurism of the ophthalmic artery, was not successful, and during an intermission of the treatment in M. Petrequin's absence, the young man was suddenly carried off by an attack of fever. Disappointed in this his first experiment, he was almost dissuaded from pursuing the idea further by finding that certain authorities, on reviewing the suggestion of M. Pravaz, had condemned it as totally inadequate. M. Petrequin hence concludes that the whole merit of the operation rests with himself—to which, in the meantime, we willingly give our assent. On the subject of the principles on which the success of the operation must depend, we allow M. Petrequin to speak for himself:—"The analysis of the first case led me to a knowledge of the principal difficulties, and of the resources by which they were to be overcome. Thus, in the first place, it became necessary to abate the force of the circulation in the afferent vessels, without which the clot is liable to be carried away by the current of the blood, as fast as it forms, particularly if the arterial tube be beyond a certain magnitude. In the sac the blood should be, as far as possible, stagnant and motionless; the patient should be recumbent, or seated at perfect rest in an easy-chair.

"To coagulate the blood in an aneurism, it is requisite, not only that the galvanic current should reach the surface of the tumour, and that it should be conveyed to a spot within it, but it is also indispensable that it should be directly transmitted through the blood itself by two opposing points. For this effect I employ steel needles, from seven to eight centimetres long (about three inches), fine and sharp, which may penetrate easily into the sac through the soft parts. There is here a double difficulty to be overcome; in reaching the seat of the disease they burn and cauterize the skin, irritate the nerves and cause unavailing suffering, ecchymosis, and unfavourable inflammatory action. Again they cause trouble by the loss of electricity, which may result in a failure of the operation. It occurred

to me, therefore, to isolate the needles in an extent corresponding to the thickness of the soft parts to be traversed, taking care to leave the heads and points free. I succeeded in this object by means of a coating of gum-lac, and better still with cutlers' varnish. It is easy to show that the isolation is thus rendered complete; for the energetic action which takes place when the poles of the galvanic apparatus are applied to the head, or to any free part of the needles, immediately ceases, whenever the poles are connected with any part of the needles covered with the isolating coating, and recommences as soon as the wires and needles communicate without its intervention, a convincing proof that the method is good. We may also use an enamel, or a china or stoneware glazing. 'Next of the mode of placing the needles. In my experiments on the blood, the occurrence of coagulation was found to be most ready when the extremities of the needles were crossed; this, therefore, is the arrangement to be adopted; and when the aneurismal sac is of considerable size, we should multiply the points of coagulation, so that the nuclei formed at different points, may finally pass into one common clot.'

"Thus I obtain the rule from experience, that we should insert the needles at opposite points for their better correspondence; that we should give them a direction obliquely or perpendicularly opposed to the current of the blood to interrupt it; that we should cross them, to render their effect more energetic, and increase their number in larger aneurisms, to obtain at once a good number of clots, to afford as it were a framework for the general coagulum; lastly, that it is advantageous to change several times the direction of the currents, in order that the galvanic influence may act in every direction, and thus produce a multitude of filaments stretched out to form the basis of a thread of coagulum amidst the mass of the contained blood."—Pp. 737, 738.

The first case in which M. Petrequin succeeded, was an aneurism of the temporal artery, the effect of an injury sustained by a fall from a height. The application of the galvanic current, according to the rules above stated, was kept up for ten or twelve minutes, and at the end of that time the pulsating tumour had become changed to a solid mass: moistened compresses were applied and retained with some turns of a bandage, and the hard knot quickly disappeared.

His second case was an aneurism at the bend of the arm, the effect of venesection. In this case, some amount of coagulation was produced, but, owing to the cowardice and unmanageableness of the patient, the attempt was finally abandoned.

In studying the phenomena of coagulation by a galvanic current, M. Petrequin recommends milk to be employed rather than blood, as affording greater facilities for the exact observation of the circumstances which favour or retard the effect; and the result of his observations, on the best kind of galvanic apparatus for the purpose, is, that a columnar pile, composed of separate small pieces, the number of which can be augmented at pleasure, with bits of cloth interposed moistened with solution of muriate of ammonia, answers best. The importance of attention to all the particulars that can be collected from the cases in which success has been obtained, will be obvious to all those who have in any degree engaged in galvanic experiments.

M. Petrequin next refers to the brilliant success obtained by Ciniselli of Cremona, in a popliteal aneurism, by following the rules laid down by him.

Our author's next case is also an aneurism of the bend of the arm, following venesection; the chief particulars of which are as follows:—

"The patient was an assistant in pharmacy, aged 30, affected with hypertrophy of the heart, whose brachial artery was wounded in venesection, whence a primitive false aneurism resulted. Some months afterwards he applied to M. Petrequin. The aneurismal tumour was then larger than a hen's egg. It was the seat of active pulsations synchronous with the stroke of the heart. By compression of the humeral artery the size of the tumour was diminished, and the pulsations became less evident. M. Petrequin, in the first place, adopted some treatment directed to the mitigation of the symptoms resulting from the disease of the heart.

"In three weeks the galvano-puncture was resorted to: four needles about three inches long were inserted at four opposite points of the tumour, so that their

extremities crossed within. The galvanic apparatus used was a pile composed of sixty plates about three inches square, the interposed pieces of cloth being moistened with a solution of sal-ammoniac. The brachial artery was compressed so that the pulsations in the tumour ceased. Two of the needles were then brought into communication with the poles of the apparatus by means of brass wires wrapt round with silk at the points where they were handled. The galvanic current was very intense, and gave brilliant sparks at intervals. The shocks were violent, the patient being held by the assistants. The tumour at first diminished in size: then it seemed to become tense and red, without any increase of density. The patient complained of a burning heat at the points where the needles were inserted, and around each there was a slight cauterization. In ten minutes the density of the tumour began to increase; there were evidently nuclei of coagulation already formed. The current was still kept up alternated through each pair of needles. In fifteen minutes the tumour felt hard, and no pulsation was discoverable even when the artery ceased to be compressed. For five minutes more the current was kept up, and then the needles being removed, compression was applied to the artery, and a bladder filled with ice placed on the tumour. For the first few days the tumour progressively diminished, without any unpleasant occurrence—then inflammation of the aneurismal sac arose, accompanied with dull pains. The punctures made by the needles showed black sphacelated points, rendering a fetid pus, and small blackish masses, the debris of the coagulated blood in a semi organized state. Thus, the sac became inflamed and suppurated, emptying itself by the apertures made by the needles. The suppuration lasted a few days, and the exit of the pus was favoured by a slight compression. Twelve days after the galvano-puncture, it was ascertained that the tumour had completely disappeared—that there was no longer any trace of the aneurism—and that the circulation in the radial and ulnar arteries was restored. On examination, it was discovered that the brachial artery was very superficial, and that a second brachial artery ran deeper and posterior to that which was wounded.

Our author ascribes the inflammatory symptoms which arose in this case, to the want of an isolating coating on the needles at the time of the operation.

M. Petrequin's next case is one of popliteal aneurism, in which the cure was effected without any unpleasant accompaniment. The needles were applied exactly as in the last case, with the exception that they were covered with an isolating coating in the middle part. The galvanic current was kept up for sixteen minutes, at the end of which time the tumour had become hard; the pulsation had ceased, and no arterial sound could be heard; the skin was neither red nor tense, except that there was a slight rose-coloured areola, of small extent, around the needles. The patient made no complaint during the operation. The tumour progressively declined in size, though, at the time of his dismissal, nearly a month after the operation, it was still of the size of a small egg; before the operation, it was the size of the fist.

The next case is also one of popliteal aneurism, which M. Petrequin cites from the Milan Medical Gazette, as treated by Favale of Naples. The cure was complete; the skin, however, inflamed and suppurated; it is not stated whether or not the middle part of the needles had received the isolating coating.

The last case contained in M. Petrequin's memoir, is one of aneurism at the bend of the arm, the effect of venesection. In this case the plan of proceeding was the same, and the success complete. The report extends only to the ninth day after the operation; but up to that time nothing untoward had occurred.

M. Petrequin suggests the employment of the galvano-puncture in some other diseases besides aneurism; for example, in varix, erectile tumours, sanguineous tumours, &c. As a sequel to our author's memoir, we present our readers with an account of the effect of galvano-puncture on varicose veins by Milani; and the paper referred to above, on the power of simple acupuncture in the obliteration of arteries. It appears there was an earlier paper on the effect of galvano-puncture in varix, by J. Bertoni, in the July number of the *Gazzetta di Milano*.

54. *Closure of several Varices of the left Leg, by means of the Electro-puncture.* By Dr. MILANI, of Varese.—The patient was an organ-builder, fifty years of age, of a healthy and robust constitution, who went into the hospital at Varese, on the 2d of

August, 1846, to be cured of varix, which caused him so much pain as to prevent him from following his occupation. It had existed for four years. The whole of the internal saphena was considerably dilated, and presented ten different knots, some as large as a small nut, others about the size of a bean, while some smaller ones extended from the internal malleolus, to two fingers' breadth below the knee. The trunk of the saphena continued enlarged to about the inferior third of the thigh. A considerable knot could besides be distinguished at the external and upper part of the calf. Animated by the favourable result which he had seen to follow the application of electricity by M. Ciniselli, to a large popliteal aneurism, Dr. Milani determined to try it in this case. Having prepared a voltaic pile of twenty-six discs, of about two inches in diameter, he introduced two needles into the tumour situated at the inner and middle part of the calf, and having previously applied two ligatures firmly around the leg, above and below the tumour, united the needles with the two poles of the battery, by means of a copper-wire silvered over. The sitting lasted twelve minutes. The patient experienced, at the first, a considerable shock, which became afterwards gradually less, with a continued sensation of pricking and burning. The tumour withered, became small, and however much the saphena and its branches were compressed above it, it could not be made to increase more in size. In its interior there could be felt with the finger a degree of hardness, especially around the needle communicating with the zinc pole. Vinegar and water was afterwards ordered as a lotion to the whole of the leg. On the fourth, the electricity was applied to the trunk of the saphena, two inches above the knee, but the number of the piles having been increased to thirty-one, and the patient, not being able to support the shock, five were removed. In the third application, made about the middle of the leg, the wires were passed through the eyes of the needles. There were twenty-four pairs of plates, and they were allowed to act for fifteen minutes, in which time there were formed clots which extended two or three inches upwards, along the saphena, in the form of firm cylinders, and of unequal hardness. The fourth application was made to a varix higher up than the former. In four minutes, hardness could be felt in the tumour, chiefly around the zinc needle. In nine minutes, the clot extended a finger's breadth towards the lower part. The sixth, seventh, eighth and ninth applications lasted fifteen minutes, and gave the same results. In the last application, the needles were fixed in two neighbouring tumours. In eight minutes, clots were formed around the zinc pole, but the blood remained fluid around the copper pole. It was then determined to change the needles, introducing the first in the place of the second, and *vice versa*. In seven minutes, the other tumour, of the size of a filbert, was also closed up. At all the other times, it was only the zinc needle which offered any resistance in withdrawing it, but this time also the copper one was the same. By these means, the whole of the varices had disappeared in ten days.

Although the two points of the needles never touched each other, and sometimes were placed at a distance of an inch from one another, there never could be prevented from taking place a superficial cauterization of the skin, in the form of an areola around the two needles, always larger around the zinc one. Not even a plaster of wax, having only a small hole for the penetrating point, could prevent this occurrence. The treatment was supposed to be assisted by fomentations along the whole of the leg.

A varix of the size of a goose-egg, on the internal malleolus of the left leg of another patient, was filled with clot after two applications, and diminished to two-thirds of its size.—*Monthly Journ. Med. Sci.*, from *Gazzetta Med. di Milano*, 29 Aug., 1846.

55. *On the efficacy of Acupuncture in causing Obliteration of the Arteries.* By Dr. GIACINTO NAMIAS, of Venice.—Dr. Namias, wishing to try if the application of needles alone was sufficient to produce a coagulum, without the aid of an electric current, the primary carotid of an old horse was transfixated with the long needle, such as is generally used in acupuncture, and which was left in its situation for twenty-four hours. The artery was not laid bare, but was transfixated in the spot where the pulsations were most distinctly felt. The animal was killed five or six days afterward, by means of several ounces of cherry-laurel water being injected

below the skin. It was found that the needle had passed from side to side of the carotid, and that in this situation there was attached to the artery a fibrinous coagulum of more than two inches in length, and free from any other point of union to its cavity. This coagulum, resembling a polypus, filled the interior of the carotid, which would have been changed into a solid cord if the animal had lived longer.

The needle which traversed the interior of the artery, Dr. Namias thinks, must have caused a slow motion of the blood at that part, and collected around it a deposit of its fibrine. This fibrine becoming firmer, increased, as may be supposed, the cause which induced the separation of this substance from the blood, by means of which the coagulum obtained such a size as to fill for a space the cavity of the artery. Its union with the vessel commenced where the points of the wounded membrane were necessarily the seat of inflammation, and of some effusion of plastic lymph. Dr. Namias states that other experimenters had proposed the same plan, but with what result he is not aware.

That which he undertook in a large vessel, such as the carotid of a horse, appears to him to be of such a conclusive and well-merited value, as to warrant a regular series of experiments being made of a like nature. For, if the introduction of needles alone be sufficient to cause the obliteration of an artery without the aid of the electric current, the cure of aneurisms would be attended with less trouble and danger than with the electro-puncture.—*Ibid.*, from *Ibid.*, Sept. 5, 1846.

56. *Treatment of Gonorrhœa.* By M. RICORD.—*The Abortive Treatment.*—As long as there are no acute symptoms, such as pain in urinating or during erection, &c., we have only to do with a mere modification of the surface. The passage of the urine only occasions a slight irritation, and as long as the disease has not proceeded farther than this, whatever be its duration, we may still employ the abortive treatment. This is important, for we find practitioners who state that the abortive treatment has not succeeded in their hands, although resorted to within the first twenty-four hours. Time has nothing to do with it; and you will sometimes meet with pneumonias, which in less than twenty-four hours have arrived at their third stage. The *nitrate of silver*, used either in substance or solution, is the most powerful modifier of the mucous surfaces we possess. It is not a panacea; but when we have seen the patient early enough, and have been able to ascertain the exact seat of the urethral inflammation, we have frequently applied the substance by means of Lallemand's *porte-caustique* with great success. We give preference, however, to strong *injections* of this substance, which, employed at an early stage, are admirable means. After making the patient pass water, and gently squeezing the last drops from the urethra, we must throw in the injection by means of a glass syringe, our object being to make it quickly traverse the entire length of the urethra. If the patient is allowed to slowly inject it, the mucous membrane puckers up, the canal is narrowed, and the fluid does not pass. We should allow it to remain in the urethra about half a minute before it flows out. Severe pain in the part is now felt, as if the canal contained pins and needles. We should advertise our patient (only after we have thrown in the injection though) that there will be a temporary increase of pain and discharge, difficulty of urining, together with a more or less abundant exhalation of blood. Such augmentation of the mucoso-purulent discharge may continue for from six to ten hours, the pain, however, usually ceasing at the end of two or three.

To the severe pains succeeds a complete collapse. The urine is passed with ease, and the discharge sometimes quite dried up. Occasionally the patient is thus cured at once, but unless he observes for a while the greatest precautions, the discharge in a day or two will re-appear. As long as it does not, we must rest content; and if it does, we employ a second injection, and sometimes are obliged to have recourse to a third one. But, generally, the discharge has become so slight, thin, and mucous, that mere *astringent* injections suffice. However, my experience proves that caustic injections employed, unaided by internal medicines, do not furnish complete results, although I have never seen the ill consequences described by some as resulting from their employment. Employed alone, then, I reject them: but used in connexion with internal medicines, they constitute an admirable method, and are, without any doubt whatever, the best means we possess for cutting short the progress of this disease.

Hygienic Treatment.—If you wish to derive all the advantages possible from the use of these injections simultaneously with the administration of copaiba or cubebs, the hygiene of the patient must be carefully attended to. His diet should be farinaceous, and his drink spare in quantity, so that the urethra may be irritated as little as possible by frequent urining. Tisans must be forbidden if we wish the abortive treatment to succeed; but, when the patient will not be satisfied without them, linseed-tea forms one of the best. Exercise must be taken as seldom as possible, and all thoughts, books, &c., calculated to excite erections, avoided. Intellectual pursuits have at such times a useful effect in driving away lascivious thoughts. A substance I can recommend as an *anaphrodisiac*, acting as powerfully on the genital organs as belladonna does upon the iris, is *camphor*, and this is the manner in which I employ it. *R. Camphor, Thrydace, aa 50 gr. M. and divide in pil. 20.* Five or six of these are to be taken daily, especially in the evening. For those who cannot take pills, I order 12 grains suspended by yolk of egg, as a *lavement*. Some persons, as I did myself some years since, add opium to the camphor, but this only destroys its sedative effects.

Internal, indirect, or revulsive medication.—The most efficacious of medicines are copaiba and cubebs, and after them, but in a far less degree, turpentine and balsams. How do these act? Revulsively sometimes; for the discharge has been evidently arrested after purgation by copaiba or cubebs: but, as Cullerier justly stated, such a cure is not permanent. The specific, not the purgative action, of copaiba is that which we must seek for. The action of such substances really takes place upon the urinary passages, through which they are eliminated from the system. What best proves that it is by the medicinal urine, loaded with the active principles of these medicines, the disease is cured, is, that it is especially in the cases in which the substance imparts its odour to that fluid that cures take place. I had a patient in whose urethra, affected with discharge throughout its length, was an aperture, dividing it into an outward and posterior portion. Copaiba was given him which cured the discharge in that part of the canal only over which the urine was enabled to flow. Yet we cannot obtain a cure by injecting copaiba or cubebs, but may indeed aggravate the case. There is a change operated by the living chemistry of the body which imparts to the aromatic principle diffused in the urine its curative properties.

Copaiba in some patients soon produces nausea and vomiting, and in others purging. In some, again, it induces an erythematous eruption of the skin, usually but of short duration. In a few cases, in which its odour is not perceived in the urine, great disturbance of the nervous centres is observed. *Cubebs* is much more easily tolerated than copaiba, and much more rarely induces ill consequences similar to those now mentioned. Whichever substance is employed it must be given from the very first in *sufficient doses*, so that the economy may not accustom itself to its presence too easily. For *copaiba*, the ordinary dose at first, should be four drachms per diem, divided into two or three portions. As much as two or three times this quantity may sometimes be required. Of *cubebs* the medicinal doses which I prefer, range from 6 to 10 drs. per diem. As long as the dose seems curative we must be content with it, if it do not disagree with the patient, when it should be diminished. It must be continued some time after the discharge has subsided. As to the pharmaceutical forms of these medicines, the less they are modified the more powerful is their action. *Cubebs* especially should be taken in as nearly its natural state as possible. Few persons, however, can take copaiba in this manner, and the following is the modification of *Chopart's Mixture*, which I have found most beneficial. *Balsam Copaib.: Mint Water: Lettuce Water: Orange-flower Water: Syrup of Poppies, of each equal parts. Make into an Emulsion with Tragacanth Powder.* Three spoonfuls are first to be taken daily, and the number increased, as the tolerance becomes established, until ten or twelve are taken. A little Seltzer water after each dose corrects the tendency of the medicine to rise; but few patients are able to continue it long. For those who cannot take copaiba by the mouth, it must be given by the rectum; but, so administered, it is a most uncertain remedy, and should never be resorted to, unless no other means present themselves. The following is the formula:—*Balsam, 6 or 7 drachms: Decoction of Poppies, 3ij. Yolk of Egg 1. M.* The rectum must be previously emptied by an ordinary enema, and then this one administered almost cold. It

should be given at bedtime, and the patient must endeavour to retain it all night; to aid him in doing which, a little opium and camphor may be added to the enema. The introduction of *capsules* is one of the triumphs of pharmacy. I prefer Raquin's gluten capsules to those formed of gelatine, the former containing a little magnesia. I have endeavoured to prepare similar ones less expensively. Thirty parts of copaiba are solidified with $1\frac{1}{2}$ of magnesia, and then covered with gelatine. With *cubebs* we usually associate a little extract of *rhatany* or frequently powdered *alum* (*i. e.*, 2 parts of alum to 30 cubebs). In some lymphatic or chlorotic-looking subjects we combine carbonate of *iron* with the cubebs. The patient's drinks should be in small quantity. Some Seltzer water with a little syrup of oranges, or some infusion of *uva-ursi*, with a little citrate of iron (6 or 8 parts to 500) and syrup of tolu, are the best. Cubebs and copaiba are often given together. I employ them separately: so that if either of these medicines fails me I have recourse to the other: but yet in a few cases where copaiba cannot be supported alone, the mixture of the two is tolerated.

The Acute Stage.—Suppose these means have not succeeded in cutting short the disease, and the gonorrhœa is completely established. We must insist upon hygienic precautions, order abundant and diluent drinks, and warm baths (about 92°). These last may be employed for an hour; but for a less time, or not at all, in susceptible patients, in whom they sometimes induce erections. Hip-baths are to be prohibited entirely, as always hurtful. Saline purgatives and enemata, the use of the suspensory, hard cool beds, rigid diet, and the camphor pills, are to be ordered. These means will usually carry the patient through the acute stage, but sometimes powerful antiphlogistics may be required. When leeches are employed, they must be always applied to the perineum, not to the penis. Some practitioners employ caustic injections and copaiba in this acute stage, and they may have met with some cures. In the great majority of cases, however, they fail, and thus discredit an useful means when judiciously used. I forbid injections of any kind whatever at this period; so, too, in regard to copaiba, &c.; it usually does harm or is useless, only disgusting the patient, and preventing his taking it at a more appropriate period. There are, however, certain exceptionable cases in which the pain in urinating will yield to nothing but copaiba, which then becomes a true sedative. When the antiphlogistics have been discontinued, and the discharge still continues, we may then cautiously have recourse to this substance or the cubebs.

Among the *accidents of the acute stage* we may mention *dysuria*, which, as it is only one stage removed from retention of urine, must be carefully watched. We should employ antiphlogistic means still more energetically, and direct the patient to allow his water to pass while the penis is kept under tepid water. In acute retention local or general bleeding at once often affords relief. An enema formed of three ounces of cold decoction of poppies and a few drops of laudanum, may have the same effect. If these means fail, we must place the patient in a bath at a very low temperature; but here precautions are required; for if the bath does not cause the patient to urinate, it augments the retention. If, however, twenty-four hours have elapsed without relief, we must no longer delay the use of the catheter; for the longer we now wait, the more difficult and painful will its introduction prove. Whether the instrument is to be retained or not, will depend upon the duration of the retention and the difficulty of introducing it. Sometimes the retention is produced by the patient restraining himself too long from urinating, in dread of the pain this will cause him. The complication of *bubo* and *urethral abscesses* is a simple inflammatory accident, to be met by antiphlogistic measures. They should be opened at the earliest period that suppuration is manifested. *Chordee* is best treated by large doses of camphor, as are also *urethral hemorrhages*. These last, in a moderate degree, are useful by the local depletion they induce; and when in excess they are best restrained by the external application of ice and slight compression, or by means of cold urethral injections. *Inflammation of the neck of the bladder* is one of the most tormenting affections both for patient and practitioner. The antiphlogistic measures must be vigorously pursued, but they often fail to give relief. A small cold enema, containing a little laudanum, given twice a day, will often relieve the pain in a manner that nothing else can.

Chronic Stage.—In the great majority of cases the disease is not cured upon the

disappearance of the inflammatory symptoms. As soon as these have lessened we must adopt less relaxing methods. Drinks must be more restricted, and baths left off, as nothing reproduces or prolongs the affection more than an incautious continuance of these last. The camphor must be continued, and copaiba and cubebs resorted to. The use of irritating injections must not be had recourse to, until four or five days after using the balsam: but if the disease then continues stationary, we may have recourse to them. If the inflammatory action, as manifested by pain, has entirely subsided, strong injections of nitrate of silver will suit very well; but this is not usually the case, and the following is that which I then prefer. *Rose Water 200 parts, Sulphate of Zinc 1 part, Fluid Subacetate of Lead 1 part.* Unchemical as it is, it answers exceedingly well. Three times in the twenty-four hours are quite frequent enough for its use, the patient urinating just before employing it. In this way you will cure 98 out of every 100 gonorrhœas. In the few cases which resist we should study the causes of the persistence of the discharge, and apply appropriate means. Sometimes the following vinous injection succeeds in these cases:—*Bordeaux or Roussillon wine 150 parts, Rose Water 50 parts, Tannin 1 or 2 parts.* To this a little alum may be sometimes advantageously added. Another excellent injection in quite chronic cases is formed by the *iodide of iron*. *Distilled Water 200 parts, Iodide of Iron $\frac{1}{16}$ th or $\frac{1}{8}$ th part.* I do not approve of the *bichloride of mercury*, for, if irritating injections are required, the *nitrate of silver* is the best. The former indurates the surface, and risks the production of stricture. When the discharge resists the strong nitrate injection, it will sometimes yield to a very weak one ($\frac{1}{16}$ p. to 200 parts). In some patients, however weak the injection used, inflammation and increase of discharge result. The patient in such a case should be left alone for a few days, when the discharge will often be found to have ceased.

The treatment of *gleet* or *military gout* is very difficult, as no disease is more obstinate. Its obstinacy generally arises from change of structure, and whenever these patients present themselves, you should *always at once examine the condition of the urethra*, or you may be afterwards accused of producing strictures which already existed when the patient first consulted you. If the canal is free, you should try the copaiba and cubebs, and then dried turpentine pills, (from 1 to 2 drachms per diem.) giving at the same time decoction of *uva ursi* and syrup of tolu as a drink. Sometimes astringents and ferruginous preparations are useful; and at other times cauterization of the urethra. Bougies, medicated or otherwise, have often effected a cure. Blistering the perineum or thighs is sometimes of great service. Cold-bathing is another means which may be tried. More frequently than is believed, the persistence of the discharge depends upon prolonged continence; and it is then cured by coition.—*Med. Chirurg. Rev.*, Oct., from *Gaz. des Hôpitaux*—No. 82.

57. *Two cases of Spina Bifida—one of them cured.*—Mr. DUMVILLE exhibited to the Manchester Pathological Society, a preparation of spina bifida taken from a child aged 5 months. The arrest of development happened in the spinous processes of the third, fourth and fifth lumbar, and first and second sacral vertebræ, which gaped widely apart. The sac in which the cauda equina partly expanded was large enough to contain an ounce of fluid. The tumour was punctured at the urgent instance of the friends, but at a period when the failing powers of life offered scarcely a hope of recovery. The child died with the usual symptoms.

Mr. Dumville related the particulars of another case, in which the congenital deficiency was situated in the same locality. He evacuated the sac by puncture, and the recovery was complete. The child, which was 9 months old at the time of the operation, has now attained 18 months; and its health is unexceptionable. The operation was quickly followed, in this instance, by a profuse perspiration; the face immediately became deeply congested; and there was much derangement of the stomach, attended with vomiting. The child was very fretful, had excessive twitchings, but no distinct convulsion. When the sac was quite empty all the symptoms were aggravated; but on becoming again distended with secretion, which occasionally took place in consequence of mechanical obstruction of the aperture, the symptoms underwent amelioration. The discharge of fluid, with more or less of the symptoms described, having lasted 14 days, the orifice then

healed over, and no further secretion of serum following, the child convalesced without any relapse. This case he adduced rather as an exception to, than as an example of a general rule.

Judging from the aggravation of the symptoms whenever any excess of the fluid happened to drain off, it would appear that too much precaution cannot be taken in order to secure the evacuation of the sac as gradually and in as constant a manner as possible, in these cases, and that the plan of operation most suitable for the attainment of this desirable end should be adopted, and, above all, timely put in practice.—*London Med. Gaz.*, Sept., 1846.

58. *Rupture of the Bladder.—Recovery.*—By WILLIAM CHALDECOTT, Esq. (*Prov. Med. and Surg. Journ.*, July 22, 1846.) The subject of this case was a healthy and temperate man, about 50 years of age, who, at midnight on the 7th of April, after passing two or three hours at a concert, ran across the street to empty his distended bladder, and the night being dark, he did not see a newly-erected post, with the top of which the lower part of his abdomen came in violent contact. He states that he fell, and with great difficulty reached his home, which was about a hundred yards distant.

When seen by Mr. C., half an hour after the accident, he was faint, and suffering severe pain over the stomach and belly, with desire, but no power to pass his urine. It was ascertained that none had escaped into his clothes, and none escaped through a full-sized catheter, which was passed easily and completely into the bladder. He was placed in bed, and hot fomentations were used to the belly until reaction took place, with which came increase of pain over the stomach and abdomen. Twenty leeches were also applied, and a gum catheter passed, but with the same unsatisfactory result as before, not a drop of urine escaping through it. Mr. C. wished to have left the instrument in the bladder, but to this the patient strongly objected, and Mr. C. urged it the less from some apprehension that in his restless movements the point might be forced through the wound in the bladder; the catheter was therefore passed every three or four hours, although up to two o'clock P. M., fruitlessly.

Mr. Key was sent for, and arrived eighteen hours after the accident, by which time the symptoms of peritonitis had increased to an alarming degree. The belly was painful, swollen, and tender; the pulse rapid and feeble, and the countenance anxious. Mr. Key passed a catheter, (none having been used for the previous four hours,) and about an ounce of bloody urine came through the instrument. Mr. Key concurred in the opinion as to the nature of the injury and the nearly hopeless prospect for the patient.

At ten o'clock, Mr. C. gave the patient two scruples of liquor opii sedativus, which after a few hours produced some comfortable sleep, and about four hours from the time of Mr. Key's visit, the catheter was again passed, and about four ounces of clear urine drawn off. From this time, the pain, swelling, and heat in the stomach and abdomen gradually lessened, and it was evident that the bladder now held, as on each introduction the catheter brought away, clear urine.

From this time until the 13th, (that is the sixth day from that on which the accident happened,) all went on well, excepting that a smart attack of gout occurred on the 10th, although the patient had never before suffered one; but on the 13th, from a strong desire to become independent of the catheter, he made straining efforts to pass his water, and he had scarcely passed a tablespoonful, when he felt (to use his own expression), something give way, and a burning pain all over his stomach and bowels, as if boiling water had been poured over them, and the same symptoms of faintness and distress occurred as when the accident first happened.

Mr. C. saw him within a few minutes of this re-opening of the wound of his bladder, for he did not doubt that such had been the consequence of his attempts to pass his water. On using the catheter, not more than a teaspoonful came through the tube. He had now again the symptoms of peritonitis, with the addition of incessant sickness. The same plan of treatment was again adopted—viz., fomentations, leeches, and a full opiate, with calomel.

About four hours after, on the introduction of the catheter, the bladder was again found to retain the urine; and although the peritonitis had increased to a

severe degree, the pain, tenderness, and sickness, gradually subsided; and by a patient submission to the continued use of the catheter for a fortnight, no more interruption to the patient's amendment occurred, excepting that the gout, which, under the use of colchicum, had nearly disappeared, again became severe, no doubt, from the fresh absorption of urine which this second accident had permitted to escape into the cavity of the peritoneum. But by this time it was presumed that the wound in the bladder had closed with sufficient firmness to allow the patient to yield to the desire to evacuate his urine without any straining efforts.

Two months have now transpired since the commencement of the case, and the patient feels no other inconvenience from his accident than a dragging sensation over the abdomen, chiefly on the right side, which is much increased when he attempts to lie upon his left side. This no doubt results from adhesions, consequent upon the peritonitis.

The recovery from such an accident as rupture of the bladder is remarkable, still there are instances on record in which recovery has taken place after wounds of the bladder. The following is related by Dr. Bresciani de Borsa.

A young man, in a scuffle with a companion, was stabbed by him in the hypogastric region with a knife. The instrument penetrated the bladder: but this viscus being distended by reason of his having been drinking, the wound occurred below the peritoneal fold. The urine became immediately diffused about the neighbouring parts, and as soon as he was brought to the hospital a catheter was introduced, through which a great deal of blood and urine flowed. The external wound in the abdomen was closed by adhesive plaster, and in the course of the cure bleeding was practised. His recovery was rapid, and so complete, that he was enabled to be received a soldier. He died in a few months of some febrile affection, the cicatrix continuing sound. Wounds of the [fundus of the] bladder by cutting instruments are rare, for Larrey only mentions one case, although those arising from fire-arms are frequent. Samuel Cooper, however, mentions a case much resembling the above in his Dictionary.

59. *Treatment of Buboës by injections of Tincture of Iodine.* (*Gazette des Hôpitaux*, Sept. 26, 1846.)—M. MARCHAL (de Culvi) employs an injection of tincture of iodine for the cure of buboës, and relates two cases in which he employed it successfully.

One of these was a soldier, admitted into the Hôpital du Val de Grace Sept. 8th, 1846, with two chancres at the side of the frenum. M. Marchal cauterized them, applied charpie wet with aromatic wine, and in sixteen days they had cicatrized.

Two days before his entrance into hospital he experienced pain in his right groin, where a tumour appeared which, by the 9th of Sept., had increased to the size of a pigeon's egg.

On the 14th Sept. the bubo was punctured, and about 20 grammes of pus discharged. The integuments over the whole tumour were of a bluish colour and thin. Tincture of iodine was injected into its cavity, which caused a burning sensation continuing for about ten minutes. The bubo was covered with a pledget wet with aromatic wine. The next day the bluish colour was replaced by redness, and the integuments were thickened. The dressings with aromatic wine were continued until the 21st. The suppuration diminished daily; adhesion took place from the circumference to the centre, and at the date just mentioned, the cure was complete.

60. *A novel, simple, and successful Method of treating Ruptured Tendo-Achilles.* By A. J. HANNAY.—Ruptured tendo-Achilles is very effectually and completely treated by the application of adhesive straps, which I apply in the following manner:—I place the foot in a moderately extended position; I then place a strap of very adhesive plaster, two and a half inches broad, and warmed, reaching from the toes on the plantar aspect of the foot, passing over the heel; it is then carried up, pretty firmly stretched, straight to the calf of the leg, and as high as the ham; it should not touch the skin over the tendon at this stage of the application. There is, at this period of the dressing, an arch formed between the plaster and the surface of the ankle, or small part of the limb. Similar straps, say two or three, are placed, exactly as this one, upon it, and by its side to straighten it. All this time the foot

is kept, as at first, moderately extended, and retained in this position whilst a turn or two of a roller, or a strap of adhesive plaster, is placed round the calf of the leg, and around the dorsal end of the foot, to prevent the straps first applied from yielding. Things being thus adjusted, I apply a roller firmly from the toes up to the knee. In doing this, the plasters first applied, and forming an arch at the back of the ankle, are, by the firmly applied bandage, pressed down, and brought into contact with the skin covering the ruptured parts of the tendo-Achillis. In this way the torn ends are brought and held in close contact, and prevented from separating in every direction, support being afforded them on each side; and all movement of the ankle, particularly its extension or flexion, being prevented, there can be no separation of the torn ends; they must lie in perfect quietude, and in apposition the most approximate for speedy union. This is accomplished with the least possible uneasiness to the patient, who can, by the help of a crutch, move about to a limited but convenient extent. I have accomplished by it several very rapid cures of the accident; it is an apparatus easily and soon procured, and its cheapness recommends it to institutions for the relief of the poor and destitute.—*Lond. Med. Gaz.*, Nov. 1845.

61. *New Method of treating Fractured Ribs.* By A. J. HANNAY.—For many years I have made use of adhesive straps as the restraining girdle around the chest, and with happy effect. The following is the mode of applying them:—I cut the most adhesive and best made diachylon plaster I can procure into strips four inches broad, and of sufficient length to surround the thorax, with a tail, which, after meeting around the cavity, will reach fully a foot beyond the point of meeting. I place the patient in a warm apartment, and close to a good warm fire, so that the plaster may be readily and thoroughly warmed, and kept perfectly soft during the application of it. Having ascertained the seat of the fracture, and having the plaster thoroughly softened, I place the middle (the sailor would call it the bight) of the strap on the fractured points. An assistant and myself each pull the ends of the strap very tightly, whilst another assistant supports the patient by preventing him from yielding in the direction we are drawing the plaster. The patient also empties his chest by expiration, as forcibly as he can, at which conjuncture the strap is brought in contact with, and made to adhere to the chest, encircling it tightly all round; the ends are crossed over each other. This first strap, or girdle, is followed by a succession of them, laid partly over each other, or imbricated; each strap should cover a third of the width of the one next it; they are applied in the same manner as the first, which, in the end (from the straps reaching up to the axilla, and down to the lower part of the chest, compressing that cavity powerfully) becomes slack, and another one is required to put round over it. I then, to secure the firm adhesion of this cuirass of plaster at every point, smoothe it over with an Italian iron sufficiently, but moderately, heated.

I have now adopted this practice for many years in private, and have taught it to the pupils of the Glasgow Royal Infirmary, some of whom, with myself, can bear testimony to its facility of application, and its perfect efficiency. It is immediate in its relief, and does not generally slacken till its support is no longer needed. I need hardly add, that it enjoys its advantages from the adhesion everywhere diffusing over the whole surface of the chest a most equable pressure; whereas the sliding bandage usually employed comes to press most on the prominent parts, and is therefore inefficient. Besides, the stiffness of the strap affords a certain and very suitable amount of support, which the bandages hitherto employed to encircle the chest do not afford. Indeed, a piece of plaster is often put on the surface over the broken point below the cinctures in ordinary use in these cases. I have just recalled to mind the circumstance which led to my adoption of this method of treating fractured ribs. I was labouring under the most agonizing neuralgic pain of the thoracic parietes during my convalescence from continued fever. Many kind professional friends who visited me suggested divers remedies, but all in vain; the late Dr. Abercrombie at length suggested a broad strap of plaster to be wrapped tightly round the chest. It proved instantaneously and permanently effectual, and pointed out to me the value of the strap in all cases requiring a firm girdle round the chest, to check, or altogether prevent its respiratory movements.

I have employed it also in cases similar to my own since, with like success.—
Lond. Med. Gaz., Nov. 1845.

62. *Fatal Hemorrhage from the operation of Tapping.*—The following interesting case, in which fatal hemorrhage resulted from the operation of tapping, is recorded by Mr. A. B. NORMAN in the *London Med. Gaz.*, (Sept. 11, 1846.)

“On the 10th of this month, I tapped Mrs. S., the widow of a tradesman in the city, labouring under ascites and anasarca, morbus cordis, and albuminuria, besides great dyspnoea, troublesome cough, and expectoration, as a consequence of the congested state of the lungs. These latter symptoms induced me to perform the operation, in hopes that my patient, whose appetite and digestion seemed unimpaired, might be enabled, first, to take rest in a recumbent posture—and, secondly, to take exercise, both of which were entirely prevented by the unwieldy size of the legs and abdomen. The abdominal parietes were so much thickened by the œdema, that a full-lengthened trocar scarcely penetrated them, and reached the abdomen. This, however, was effected, and after a good deal of trouble, from something obstructing the end of the canula, the fluid was pretty completely drawn off, and the canula being withdrawn, and the wound covered with adhesive plaster, the abdomen was tightly bandaged. Slight bleeding existed, but not such as to make me or my friend, Mr. Carlile, who assisted me, anxious, and we left our patient feeling much relieved. In the evening I visited her; and finding that an oozing had continued, to sufficient extent to make her dress and the bandage uncomfortable, I took off the latter and the plaster, and observed that the hemorrhage was continuing. but did not notice anything like an *arterial jet*; and as the hemorrhage had produced no influence on the patient's pulse or feelings, and did not seem to be now at all rapid, I contented myself with applying adhesive plaster and a thick compress on the wound, supporting them with towels firmly pinned around the abdomen; and directed my patient to get to bed and make herself happy, in the prospect of being able to sleep comfortably again. Next morning, the 11th, at 11 o'clock I visited her, and found her sitting up, blanched, with a quick fluttering pulse, eyelids and hands œdematous, and herself feeling very faint and anxious. Hemorrhage had increased in the night with the heat of the bed to such an extent as to have soaked through blankets, bed, and everything, and to have brought on syncope. Her attendants had therefore removed her out of bed, and I found her sitting in a chair looking deathly pale. On removing the towels I found underneath them large clots of blood; and they were thoroughly saturated themselves, and on uncovering the wound, I found a somewhat rapid and distinctly arterial flow of blood from it. There was no time to be lost, and I thought the best thing to do was to plug the wound with a bit of sponge: this with the probe I was enabled to do, and it completely controlled the bleeding; which being effected, I advised her lying down, and being kept perfectly quiet, and ordered her to take some good strong ox-tail soup and wine; in fact, as much wholesome nourishment as she could. This was duly attended to. Between five and six hours after I called on her again: no recurrence of hemorrhage; pulse less frequent and fuller than in the morning; the patient cheerful, and feeling so well that she walked from the bedroom into the parlour, much to my surprise, to see me: but she complained of a noise, and an irritable feeling; was still pale; and her eyelids and hands much swollen. I prescribed for her twenty minims of compound spirit of ammonia, and ten minims of tincture of opium, to be taken as soon as it could be got, and to be repeated every four hours if she were awake. She wished for oysters for her supper, and I thought it well for her to take nourishment in a way which she wished. After making a hearty supper of them and a sandwich, she went to bed. She slept well, and was rejoiced at being able to lie down. Her daughter slept with her; and in the morning, finding her asleep, got up and left her in bed: she still slept on until between ten and eleven o'clock, when the people about her thought they saw a change in her appearance, and shortly after she died without awaking.

As I have only recorded this case in relation to the operation and hemorrhage, I shall not here detail the post-mortem examination, but shall simply state that the hemorrhage had resulted from division of a very small branch of the deep epi-

gastric artery, of a calibre not exceeding the size of a common pin, which ran in a slanting course inwards and across the linea alba for the epigastric trunk. There was no internal hemorrhage. The walls of the abdomen were between two and three inches thick, and the impediment to the removal of the fluid had been occasioned by the falling into the canula of a *tail*, as it were, of the border of the omentum.

63. *Extensive Laceration of the Organs of Generation.*—The following case, recorded by Mr. SNELL in the *London Med. Gaz.*, (Oct. 1846,) affords a remarkable example of the restorative powers of nature, and is well calculated to show how much may be accomplished by those powers when judiciously assisted by art.

"A boy, twelve years of age, was climbing up a rope to the end of which a hook was attached: by some mischance his hands gave way, and he fell backwards 'head over heels.' In his descent, the point of the hook caught his trowsers, penetrating the integuments just above the pubes, and tearing back the whole of the genital organs close to the anus.

"When first I saw the laceration (some hours after), the injured parts presented a very novel appearance. The sufferer was in bed, and, on my separating the legs, nothing appeared of the genitals but what resembled a lump of fat or an undistended bladder lying close to the anus. The testicles were hanging by the spermatic cords on each side, and I was informed that but trifling hemorrhage had ensued. Upon examining this mass of apparent fat, I made out the penis, scrotum, &c., but all corrugated and shriveled up, cold and bloodless. These I stretched out into shape, and found that, by a little careful and nice adaptation, they could be made exactly to fit the torn surface above. Having next returned the testes, and accurately adjusted the parts with numerous stitches, the whole was retained in proper position. These were supported in every needful direction by strips of isinglass plaster spread upon ox-gut. The whole was then covered with carded wool, until warmth and vitality were perceptibly returning to the detached portion.

"I confess that I entertained considerable doubt as to the probability of adhesion, and felt not a little anxious, during the three succeeding days, lest sloughing should ensue.

"The isinglass plaster, from its transparency, allowed me to see distinctly how the case was progressing without disturbance of the parts; and I was much gratified, on the day following, to perceive that not only had vital warmth been restored, but also that they were agglutinating most satisfactorily.

"Finding, on the third day, that the isinglass plaster yielded sufficient support to ensure local apposition, I cut the stitches least required, and continued to do so daily.

"The parts gradually healed, and, with the exception of one or two spots which were a little puckered, and in which granulations appeared, the whole of this extensive laceration healed by the first intention; and I need scarcely add, under circumstances which little warranted the hope of such a termination."

64. *Spontaneous cure of Hydrocele.* By FRED. COX, Esq.—Mr. — consulted me in the autumn of last year, for an inflamed testicle, which was treated in the usual way by leeches, cold lotions, &c., and soon got better, a slight enlargement remaining. After a few weeks fluid became perceptible in the tunica vaginalis, and this went on increasing until a tolerably large hydrocele was produced. Early in February last, I removed the fluid by means of the trocar, but took no steps to effect a permanent cure. The fluid, as was to be expected, soon began again to accumulate, and in the month of April at least five or six ounces were in the sac. I saw Mr. — in the months of May and June, and each time found the water had sensibly decreased, and by the middle of July it was entirely gone; the most minute examination failed in detecting the least appearance of fluid, nor has any been effused up to this time. Beyond a slight enlargement of the testis, and a little tenderness and occasional pain of that organ, the parts are now perfectly normal.

The occupation of my patient is of a most active character, requiring his presence in London twice a week, and subjecting him to much horse-exercise every day. He is rather intemperate in his habits. I mention these circumstances be-

cause they may be thought to have played a part in causing the absorption of the hydrocele.

Now, I must state, that no *local* remedies whatever had been employed in this case with the view of dispersing the affection; but Mr. — has been taking, for more than a year, the iodide of potassium, with decoction of sarsaparilla, for secondary syphilitic symptoms. Whether the exhibition of these medicines had any effect in causing the absorption of the hydrocele, is a point I leave for your readers to speculate upon, merely stating my own opinion, which is, that they were perfectly innocent of the cure. I am not aware that the iodide of potassium administered internally has any influence in causing the absorption of such serous effusions, whatever power it may have in removing glandular enlargements and the like. I look upon the employment of the remedies, and the absorption of the fluid as a mere coincidence, and not as cause and effect. My patient took the above medicine long before the hydrocele appeared, and during its production, and for some time before the tapping, iodine was freely used externally, as well as taken internally, with a view to its dispersion, but without the least beneficial result; on the other hand, the fluid steadily increased under its use. I should rather look for the cure to have been effected by the active horse-exercise and the over-indulgence in stimulants. These combined would doubtless set up a brisk action in the tunica vaginalis and testis generally, and under such a condition of the organ, the absorption might reasonably be looked for, if it might be looked for under *any* circumstances,—of course, I mean no remedies being used. Sir Benjamin Brodie has mentioned two unequivocal instances of spontaneous cure of hydrocele from inflammation of the tunica vaginalis accidentally taking place, and Dr. Watson narrates a case where rapid absorption followed a fit of drunkenness.—*Prov. Med. and Surg. Journ.*, Nov. 4th, 1846.

OPHTHALMOLOGY.

65. *Structure of the Vitreous Body.*—The laminated structure of the vitreous body has been already demonstrated by Pappenheim* and by Brücke,† the latter of whom made his observations chiefly on the eyes of sheep. The truth of their account has been in great measure confirmed by HANNOVER,‡ so far, at least, as concerns the eyes of the horse, ox, sheep, cat and dog; but not as regards the human eye, in the vitreous body of which a different structure exists. Hannover's account goes further than that either of Pappenheim or of Brücke; he describes the vitreous body in the eyes of the above-named animals as composed of concentric laminæ, each one of which forms a complete shut sac, so that the substance of the body is almost entirely made up of a number of these concentric sacs, inclosed one within the other. In the eye of the cat, dog and ox, the individual laminæ (which are very thin) lie so closely and compactly one within the other, that the corpus vitreum appears as one solid mass. In the vitreous body of the human eye this peculiar laminated structure does not occur; an arrangement which is almost exactly represented by the structure of an orange being substituted in its place. If a perpendicular section be made of a human corpus vitreum, which has been hardened by maceration in chromic acid, the cut surface will present a number of fine striæ, converging towards the centre, which are so many radii of sectors of which the body is composed. The axis towards which these sectors converge may be represented by an imaginary line drawn through the vitreous body from the centre of the optic nerve, just previous to its expansion into the retina, to the middle of the cornea, consequently it corresponds exactly to the canalis hyaloideus, which transmits the arteria centralis through the centre of the vitreous body. In the hardened eyes of new-born children, in whom this artery is pervious,§ it is more evident than in adults that the hyaloid canal forms the axis towards which all the sectors converge. The striæ or radii of the sectors

* *Specielle Gewebelehre des Auges*, 1842, p. 182.

† *Müller's Archiv.*, 1843, p. 345; and 1845, p. 130.

‡ *Ibid.*, 1845, p. 471.

§ In adults he never succeeded in finding either the canal or the artery pervious.

do not quite reach the canal, or at any rate they become so fine before they do so, that they are invisible, and the portion of the corpus vitreum immediately around the canal appears structureless and homogeneous; this seemingly structureless portion is much larger in children than in adults. Hannover says he has succeeded once or twice in counting about 180 radii, consequently in these eyes the corpus vitreum would be composed of so many sectors. He has not been able to determine whether each sector has its own wall, or whether one wall is common to each two contiguous sectors; he is of opinion that the interior of each sector is not further subdivided into compartments. The tissue composing the walls is a structureless transparent membrane, on which are scattered numerous minute granules; it proceeds from the tunica hyaloidea. Concerning this hyaloid membrane, M. Hannover offers some new particulars. He states that at the anterior edge of the retina, the hyaloid membrane divides into two layers, the posterior of which dips into the substance of the vitreous body to form the walls of the sectors, whilst the anterior becomes united with what is called (improperly so, according to Hannover) the tunica vasculosa of the retina; from this point of union the anterior layer then passes down and forms the posterior wall of the canal of Petit, advances forward, and is reflected up along the ciliary body, forming thus the anterior wall of the canal of Petit. From this splitting of the hyaloid membrane into two layers results a circular space or canal hitherto undescribed. Whether this canal possesses any fluid contents, or what is the purpose served by it, Hannover has not been able to determine.—*Ranking's Abstract*, Vol. III.

66. *Movements of the Iris*.—To prove that the movements which take place in the iris upon irritating the third pair of nerves are reflex in their character, and do not depend upon direct irritation of any motor fibres of the iris contained in the trunk of the third nerve, VOLKMANN* adduces the fact that in some cases at least, the contracted or dilated state of the iris (according as the case may be), which is induced by irritation of the third nerve, continues for some time after removal of the irritation, whereas the several muscles of the eye which have been at the same time thrown into contraction, become relaxed the moment the irritation is withdrawn. The contraction of the muscles depends on direct irritation of their motor nerves, whereas the action of the iris, Volkmann thinks, is the result of centripetal fibres being irritated, and this irritation reflected upon motor fibres through the medium of the ophthalmic ganglion, which therefore acts as a nervous centre to the iris.†—*Ibid*.

67. *Flaccidity of the Iris after Death*.—M. RIPPAULT‡ proposes to apply the circumstance of the iris becoming flaccid after death as a means of distinguishing between real and apparent death; for in the former case he finds that the pupil loses its circular form when the globe of the eye is compressed in two opposite directions; but, on the contrary, retains its round form so long as life and the power of vision remain.—*Ibid*.

68. *Adjusting Power of the Eye to Vision at different distances*.—To prove that the capacity which the eye possesses of adapting itself to distinct vision at different distances is due to the action of the muscles of the eye, which by their compression increase the antero-posterior diameter of the globe, and so, by the greater or less amount of their contraction, regulate the focal distance to the required degree, M. FRESTER§ adduces the circumstance that persons in whom the third pair of nerves (and consequently the majority of the muscles of the eye) is paralyzed, become presbyopic, and that this condition is remedied by the use of bi-convex

* Müller's Archiv., Heft v., 1845, p. 426.

† Dr. Radcliffe Hall has published an interesting paper on the "Functions of the Ophthalmic Ganglion," (Edin. Med. and Surg. Jour., April, 1846.) Professor Valentin's researches on the "Functions of the Nerves of the Orbit," are translated by Mr. France into the London Med. Gazette, commencing in the No. for Feb. 20, 1846.

‡ Comptes Rendus, 23 Mars, 1846.

§ Trans. of Acad. Roy. des Sciences, Paris, Aug. 11, 1845, in Encyclog. des Sci. Méd., Sept. 1845. The several views on this subject have been recapitulated by M. Adelon, in the article "Vue," in the Dict. de Méd., tom. xxx., 1846.

glasses, although dilatation of the pupil still continues, and cannot, therefore, be the cause of the presbyopia.—*Ibid.*

69. *Paralysis of the Third Pair of Nerves consecutive to Neuralgia of the Fifth Pair.*—M. MARCHAL (de Calvi), in an interesting memoir in the *Archives Générales*, points out a relationship which exists between paralysis of the third pair with neuralgia of the fifth, that has not been suspected. Trifacial neuralgia, he observes, has been little studied as regards the disorders which it produces beyond the nerve it affects, but which form a very interesting and curious part of its history. Is it not in fact remarkable that a lesion, limited to a few filaments of the fifth, can, by a retrograde repetition of morbid actions, propagate itself to the nervous centres and induce the most extensive, multiplied, and serious accidents, such as the loss of speech or power of deglutition, excessive dyspnœa, paraplegia, violent convulsions, emprosthotonos, furious delirium? Nevertheless this is to be found detailed in a case by Ponteau, which I have published with several others in a paper upon *Traumatic Prosopalgia* in the 55th vol. of the *Memoirs of Military Medicine*. And in these so certainly was it the simple lesion of some of the trifacial filaments that induced so fearful an assemblage of symptoms, that when they were divided, by a section extending to the bone, the accidents, which had so long resisted all medical appliances, disappeared in half an hour never to return. Two phenomena or two orders of phenomena are sometimes so disproportioned that the idea of their connection never at first presents itself to the mind; for who could have thought such grave disturbances of sensibility and motion were dependent upon an old contusion of a few nervous filaments. Several facts and a careful examination of all their circumstances were required before this connection could be perceived. These cases of prosopalgia, with *general* lesion of sensibility and motility, led me to recognize the *specul* relation which exists between the paralysis of the common oculo-motor nerve and neuralgia of the trifacial, in the following cases.

CASE 1.—A soldier, æt. 47, of a very nervous temperament, was the subject of paroxysmal pains of dreadful violence on the left side of the head and face, especially in the vicinity of the supra-orbital foramen, mastoid process, and in the teeth of the upper jaw. The left eye became affected also with diplopia, but presented no deviation from its normal direction. The sensibility of the left cheek was entirely gone, as also of the nostril, although he could still perceive odours. He could open his jaws only to a very slight extent. M. Marchal tried the experiment of compressing the frontal nerve as it passed out of its foramen. This caused great pain, *but immediately, and as long as it was continued the diplopia ceased.* The experiment was frequently repeated with the same results. The pressure, however, could not be employed as a remedial means in consequence of the great pain it gave rise to: but the patient obtained considerable ease during his paroxysms from inducing compression of the dental nerves by introducing a small piece of wood between two of his teeth. Seven blisters were successively applied over the supra-orbital region in the space of twenty days, purgatives and stimulating pediluvia being simultaneously resorted to. The pain was relieved and the sensibility restored; but the diplopia remained and the globe of the eye became smaller, and drawn inwards, the upper eyelid being also paralyzed, so that the eye was kept shut. But now analogous pains and diplopia were observed on the right side—so that this latter could no longer, as heretofore, be obviated by closing one eye. Blisters were applied on this side and the pain relieved: but the diplopia of either eye continued, and the patient's vision became sensibly enfeebled. Time and the use of Meglin's pills, or probably the first alone, gradually restored his vision; and, one evening, after drinking to excess, the diplopia also suddenly left him. The patient, however, eventually became the subject of various other nervous affections which entirely destroyed his health.

CASE 2.—A young woman, æt. 26, and otherwise in perfect health, had suffered for two years most violent pains in the left side of the head, radiating towards the ear, eye, and cheek. They were accompanied by tinnitus auris and red flashes before the eye. Eight days before visiting her the eyelid could not be raised, and the globe of the eye was simultaneously drawn outwards. The pupil was dilated. A sharp pain was felt opposite the supra-orbital foramen, and increased when she

laid on that side. Following her occupation as a shoe binder, she had many years since been accustomed to press the left side of her head against an article of furniture. This gave rise to a tumour here which suppurated, and the resulting sore was obstinate in healing. On touching the cicatrix which this left, a sudden and violent frontal pain was felt. Blisters were applied over the cicatrix, and galvanism employed in the course of the third pair, but all without success.

CASE 3.—M. Marchal having accidentally observed a pensioned soldier with a blepharoptosis, inquired its history. He learned that the man, after having been exposed to damp, had suffered horrible paroxysmal pains at the root of the nose and near the supra-orbital foramen. After a certain time these ceased, and were followed by the complete descent of the eyelid, the globe of the eye being also drawn outwards and the pupil dilated.

CASE 4.—Louise Heberard, æt. 33, had enjoyed good health until she worked as a dress-maker in a cold, damp apartment. In June, 1844, she was seized with toothache on the left side, and then with pains along the left eyebrow, and eventually opposite the supra-orbital foramen. Severe pains were also felt at the root of the nose, and near the angle of the jaw. The left eye became drawn inwards, and she saw double. In May, 1845, the upper eyelid fell, and the eye which had been drawn inwards now became drawn outwards. Tactile sensibility of the left side of the face and head was abolished. The sense of smell was gone on the left side, as also that of taste at the anterior part of the tongue. During mastication, the patient often bit the left side of her tongue, and she articulated so imperfectly as to be understood with difficulty. She was much troubled with confusion of the head, and could not guide herself unless the left eye was closed, on account of her double and confused vision. No means that were tried gave her more than partial relief, and she left the hospital.

CASE 5.—A man in M. Gendrin's ward, while employed on a railway, had received a blow upon the forehead, which induced violent pains radiating towards the surrounding parts. Upon his admission, long after the accident, pressure upon this point still caused some pain; and, several months after the existence of these neuralgic pains, the upper eyelid of the same side fell, and the eye was drawn outwardly.

"In these cases it cannot be doubted that the neuralgia of the 5th pair preceded the paralysis of the 3d. As in the third case, the neuralgia may have ceased for a longer or shorter space of time, and then the paralysis may seem to be independent of it, until due inquiry is made. I am certain that a great number of cases of paralysis consecutive to neuralgia may, in this way, be detected."

M. Marchal believes the following hypothesis offers the most probable explanation of the occurrence. The trifacial nerve and the common motor oculi meet in the ophthalmic ganglion, the former furnishing it the sensitive root by the nasal branch, the latter the motory root from its inferior branch. It will be admitted that a reflex morbid action may take place within this ganglion by which the affection which is expressed in the sensitive nerve by pain or anæsthesia, is transmitted to the motor nerve, in which it is expressed by convulsion or paralysis. I say convulsion; for, in the first case, the eye was drawn inwards as it also was at first in the fourth. The symptomatology of the motor, as of the sensitive nerves, is of two opposite kinds; pain and anæsthesia for the latter, convulsion and paralysis for the former; and in this way, prior to the paralysis of the rectus internus, it may have been in a state of excitement, during which the eye would be drawn inwards."

This hypothesis is consistent also with the most plausible theory of the functions of the nervous ganglions—true miniature brains, as they have been called, for the regulation of special actions—receiving impressions by filaments continued from the sensitive roots, and conveying these by the motory filaments—presiding over the nutritive phenomena by their gray fibres, and only advertising the brain proper of what is occurring in their localities, under extraordinary circumstances. In this way, the ophthalmic ganglion, in particular, would be affected in the relations prevailing between the retina and the iris, and certain muscles of the eye. Advertised of the vicissitudes of sensibility of the retina by its connection with the optic nerve, it reacts upon the iris, harmonizing the pupil according to the degree

of sensibility of the retina, and acts reflectively by its motory root upon the muscles of the eye which are influenced by the third pair.

There is then, besides the perception belonging to the brain, another, viz., a *ganglionic or organic perception*.—*Med. Chir. Rev.*, Oct. 1846, from *Archives Gén.*

70. *Phlebitic Ophthalmitis*.—The following interesting case of destructive inflammation of the eye after phlebitis consequent on inflammation, is related by W. BOWMAN, Esq., in the *London Med. Gaz.*, Oct. 1846.

The subject of it was a young man whose leg had been amputated on account of disease of the ankle and tarsus. The patient had a shivering fit on the fifth day from the amputation, followed by decisive symptoms of inflammation of the veins of the stump, advancing even above the groin. He was already in a state of high irritative fever, with a sallow and exhausted countenance; and on the fifth he was attacked with diarrhœa, which required starch and opiate enemata, with small doses of gray powder and Dover's powder. This symptom soon ceased, but bed-sores were appearing, and he had repeated rigors, with parched tongue, very rapid pulse, a hot skin, and an anxious and sunken look, which indicated serious internal disease. The stump itself was meanwhile assuming a more healthy action, and the ligatures had separated; yet there was some projection of the bone in spite of our efforts to prevent it.

On the morning of the sixth he complained of his left eye smarting and aching, and it appeared to be affected with slight catarrhal ophthalmia. There was superficial redness, with mucous discharge. Alum lotion was applied.

On the following day the inflammation had increased with frightful rapidity; there was excessive florid chemosis, partly concealing the cornea; the lids were turgid, and the eye wanted none of the characters of a severe attack of purulent ophthalmia, except the purulent discharge. The pain in the globe was of an aching, darting kind. The cornea remained clear, but the aqueous humour and iris were muddy, and sight was totally lost. The chemosed membrane was scarified, and four leeches were applied, which had the effect of speedily reducing the scarlet colour of the conjunctiva to a pale yellowish-pink tint, and the chemosis became of that sort which is known as "serous." This speedy change was accelerated by his weakened state, and showed that active depletion was inadmissible. Fomentations were then applied. The general treatment was continued, with an opiate at bed-time.

On the 8th dull pain in the eye continued, and the chemosis had increased and projected between the lids, but was pale and serous. The cornea had become cloudy. the chambers were yellowish, the iris obscured by lymph, the pupil occupied by a yellow mass of lymph, which looked like an opaque lens. The lids had become less œdematous, so that the condition of the interior of the organ could be more exactly noted. Meanwhile the local symptoms of phlebitis in the stump were on the decline, and the stump assumed a more healthy aspect, the bones still protruding slightly. But the rigors now recurred daily, with considerable regularity, attended with much exhaustion; and about the 15th he was seized with pleurisy of the right side, for which he was blistered, and took a grain of calomel with opium every four hours for two days. At the end of this period the pain in the side had nearly subsided, and (what is interesting) the lymph was absorbed from the iris and the pupil, which resumed very nearly their natural appearance, the latter only remaining rather turbid. He had lost almost all pain in the organ, and the morbid action within it seemed entirely checked. Some pale chemosis remained, but the cornea was clear, and the globe wore no appearance of internal suppuration. All pain in the organ had likewise ceased.

On the 20th he died, after an aggravation of the symptoms betokening internal phlebitic abscesses.

I examined the eye before twenty-four hours had elapsed, and had appointed an hour for the inspection of the rest of the body; but this was unfortunately prevented by the interference of the friends.

The following is the result of a careful and deliberate examination of the eye itself.

The iris, seen through the transparent cornea, was clear green, without lymph

on its surface, but firmly adherent by its entire posterior surface to the capsule of the lens, which presented only a partial opacity near its centre. This posterior synechia and opacity of the capsule appeared of old standing (and the patient had stated that this eye had been a poor one, and vision imperfect with it for many years).

The lens itself was *perfectly transparent*.

Under one of the recti, immediately behind its insertion, the sclerotic (and also the choroid) was much bulged, and so distended as to be almost giving way, evidently by pressure from within. It formed what would have been termed, from its shape and circumscribed figure, a staphyloma scleroticæ. In order to ascertain its nature, I carefully cut all round it through the sclerotica only, and in detaching this coat I found that it was extremely thin, and its fibres as it were unraveled, at the apex, where also the choroid was adherent to it by a film of recent lymph, and, like the sclerotica, distended from within. The outer surface of the choroid was perfectly natural, except at the apex of the swelling. On now cutting through the choroid, a whey-like fluid, with particles of lymph floating in it, escaped in abundance; and I found that this effused fluid was filled with nucleated and other irregular granules, hanging together in little masses, and resembling lymph rather than pus. In this turbid fluid there lay loosely a great number of smooth, round, or oval heads of soft yellow lymph, of every size up to that of a rape-seed, and these consisted of an agglomeration of nucleated lymph-particles, with many shapeless granules in the connecting material. Scarcely any fibres could be discovered. I emptied the cavity between the choroid and retina, in which this effusion had collected, by syringing it under water, and the inner surface of the choroid then exhibited a coating of yellow lymph, which appeared to be deposited not merely on the surface, but also in the interstices of the capillary network which lies under the epithelium forming that surface,—almost all trace of this epithelium (the “membrane of the black pigment” of Mr. Wharton Jones) being lost. The vitreous humour, in its enveloping hyaloid membrane, together with the broken remains of the retina, had been thrown by the effusion to the central part of the globe, where they occupied only about half their natural space. The retina was not at all coated with lymph, and its capillary network was perfect, but the nervous substance was in a great measure destroyed, as though macerated; yet what remained exhibited the characteristic elements of the nervous substance of that part. In particular, I discovered several well-marked examples of the caudate nerve-vesicles, which I had never before unequivocally seen in that membrane, although strongly suspecting their existence. Jacob’s membrane was nowhere visible.

The hyaloid capsule (that homogeneous glassy membrane which forms the outer covering of the vitreous humour, and in the adult eye shuts it off, as the capsule does the lens, from the capillary blood-vessels of surrounding parts, and constitutes it a non-vascular texture)—the hyaloid texture was everywhere entire, but thrown into innumerable minute folds, in consequence of its collapsed form. A good many lymph-globules were accumulated on its exterior in certain parts, and the nuclei naturally present on its inner surface were very distinctly visible. But what I wish specially to notice was the state of the vitreous humour itself. This highly delicate structure, from its transparency and exquisite texture, displayed with remarkable clearness the morbid changes that had been taking place within it. In a state of health the vitreous body presents no corpuscles, and only in certain parts can even that fibrous web which forms its basis be accurately seen. Such parts are specially the neighbourhood of the ciliary processes, and the border and posterior surface of the lens, where this tissue is strong, and is implanted in the capsule of the lens to aid in maintaining it in position. Now every part of the vitreous humour was here turbid and cloudy, from a finely granular and amorphous deposit in its fibrous meshes. This deposit might be supposed to be a simple coagulation of albuminous matter; no trace of organization could be detected in it. But, in addition to this, there were disseminated through the vitreous humour innumerable nucleated cells, like those of the lymph already described. These nucleated particles were much more numerous immediately within the hyaloid capsule, in the superficial portions of the vitreous humour, than towards its centre, where they very gradually ceased. They were all distinct from one

another, placed apart in the vitreous tissue, and had everywhere the same appearance and size. Mingled with them, however, were several smaller, more granular, and irregular particles, which might be in process of development. I could perceive no appearance indicating a multiplication of the particles by splitting or division. In the central part of the vitreous humour there were none of the nucleated particles, but in the neighbourhood of the optic foramen and yellow spot, and particularly within the ciliary processes of the vitreous (or the zone of Zinn), at the border of the lens, and near its posterior surface, they were so abundant as to render the vitreous humour perfectly opaque and yellow: yet even here they only differed in number from those found elsewhere.

71. *Melanosis*.—Mr. HOLMES COOTE, in an interesting paper on melanosis, (*Lancet*, Aug. 8th, 1846,) expresses his conviction that this disease cannot be radically removed by operation, an opinion in the correctness of which we fully concur.

"It has been commonly stated," he remarks, "that by the early and complete removal of a melanotic tumour the patient is afforded a good chance of permanent cure. This opinion has been recently supported by Dr. Argyle Robertson, in a short pamphlet upon melanosis. My own observations lead me to a totally opposite conclusion. Thoroughly convinced of the inefficacy of any operation in radically removing the disease, I doubt much whether we can affirm that it even prolongs life. Patients may fairly be recommended to submit to the removal of superficial tumours, which, by their position or size, produce inconvenience; but the more serious operation of extirpation of the eye ought never to be undertaken, except at the patient's express desire, and after he has been fairly made acquainted with the circumstances of the case. I shall conclude with a table of fifteen cases, watched for a period of at least four years. This table shows the average duration of human life, after the primary tumour has been successfully removed, to be about thirteen months.

"Table of cases in which the observations have been extended over a period of above three years from the date of the operation."

Name of the Operator.	Case.	Result.	Cause of death.
Mr. Lawrence*.....	1	Died.	Eighteen months after operation; secondary melanosis.
Ditto.....	2	Died.	Six months after operation; secondary melanosis.
Ditto.....	3	Died.	A few days after the operation.
Mr. Fawdington†.....	4	Died.	Seven months after operation; secondary melanosis.
Mr. A. Burns‡	5	Died.	Three months after operation; secondary melanosis.
Dr. Holschen§.....	6	Died.	One year after operation; secondary melanosis.
Cullen and Carswell.¶	7	Died.	Thirteen months after operation; secondary melanosis.
Mr. Wilson.....	8	Died.	Two years after operation; secondary melanosis.
Mr. Langstaff¶.....	9	Died.	Five months after operation; secondary melanosis.
Dr. D. Williams**.....	10	Died.	Twelve months after operation; secondary melanosis.
Mr. Montgomery	11	Died.	Five months after operation; secondary melanosis.
Dr. A. Robertson.....	12	Died.	Two years after operation; disease of heart?
Ditto.....	13	Died.	Three years after operation; melanosis of sacrum and pelvis.
Ditto.....	14	Died.	Ten months after operation; secondary melanosis.
Ditto.....	15	Died.	Two years after operation; disease of the liver.

Total number of months, 200.

Average duration of life after the operation, $13\frac{1}{3}$ months."

* Lawrence on Diseases of the Eye, and Clinical Lectures, Med. Gaz., Oct. 3, 1844.

† Fawdington: Case of Melanosis.

‡ A. Burns: Anatomy of Head.

§ Holschen: Hanover Ophthal. Observ.

¶ Carswell and Cullen: Ed. Med. and Surg. Transactions.

¶ Langstaff: Med. and Chir. Trans., vol. iii.

** Dr. D. Williams, Prov. Med. and Surg. Transactions, vol. i.

72. *Adhesion of the Eyelids to the Globe of the Eye.*—M. PETREQUIN has succeeded in remedying this acquired deformity (which has hitherto been considered to be irremediable) in the following way. The principle of this method is to prevent the cicatrization of the opposed surfaces proceeding simultaneously, to have the healing process completed, or nearly so, on one surface before it has commenced on the other. In order to effect this object, he pierces the adhesion at a suitable depth with a needle carrying a double ligature. The ligature corresponding to the eyelid is rather loosely tied, so that it shall very slowly divide the parts it includes; but the second ligature, which corresponds to the eyeball, is, on the contrary, very firmly constricted, and rapidly cuts through the adhesion. In this way the wound on the sclerotic may be healed before there is any exposed surface on the eyelid with which it can unite, and the denser and more extensive the adhesion, the easier it is, by regulating the tightness of the ligature, to obtain an interval of several days between their separation. If the adhesion is very deep, it must be divided by several operations, penetrating to a greater depth each time. The eyeball must be kept fixed during the process by means of carefully applied compression, as otherwise its motion and that of the eyelid might cause inflammation, and premature separation of the ligature.—*B. & F. Med. Rev.*, from *Petrequin's Traité d'Anatomie Med. Chirurg.*

73. *Statistics of Operations for Cataract.*—Dr. EDWARD JÆGER, son of the celebrated ophthalmologist, gives the following as statistics of his father's operations for cataract, performed at the Josephine Academy, in Vienna.

From 1827 to 1844, Prof. Jæger operated on 1,011 cataracts, of which 764 were lenticular, 207 capsulo-lenticular, and 40 capsular. The kinds of operation to which he had recourse, were as follows:

	Cases.
Extraction by the Superior Section in	728
“ by the Inferior Section “	9
Partial Extraction “	58
Depression “	129
Breaking down the Lens “	87
	<hr/> 1,011

Of the above number, 63 lost their sight; and it will be seen, by the subjoined table, what were the processes employed that gave the worst results:

Of the 58 operated, by partial extraction	3
“ 737 “ by extraction	33
“ 87 “ by breaking down the lens	6
“ 129 “ by depression	21
	<hr/> 63

It follows, from this statement, that extraction has been the most successful; as the proportion of those who lose their sight to the number in whom the operation succeeded, is $4\frac{1}{2}$ per cent. in extraction; 16 per cent. in depression; and 8 per cent. in breaking down the lens, or absorption. In order, however, to derive full satisfaction from these statistical returns, we ought to be apprized of the considerations that influenced Professor Jæger to have recourse to one operation in preference to another.—*Bulletin Med. Sci.*, from *Ueber die Behandlung des graner staares*, Vienna, 1845.

MIDWIFERY, AND DISEASES PECULIAR TO WOMEN.

74. *Suggestions regarding the Anatomical Source and Pathological Nature of Post-partum Hemorrhage.* By Prof. SIMPSON, of Edinburgh.—No doubt the occurrence, after delivery, of great and decided atony in the whole muscular system of the uterus does assuredly give rise to post-partum hemorrhage. But if I may judge from my own observations, I would venture to remark, that the morbid condition

which is most frequently and earliest seen in connection with post-partum hemorrhage, and which is specially remarkable in cases where the flooding is more enduring than usual, is a state of irregularity and want of equability in the contractile action of different parts of the uterus; and it may be in different planes of the uterine fibres, as marked by one or more points in the organ feeling hard and contracted, at the same time that other portions of the parietes are soft and relaxed, and by the contracting and relaxing fibres, slowly but frequently changing their relative situations.

Upon the same principle, I believe that in attempting to prevent or remove the morbid condition leading to post-partum hemorrhage, when it is functional in its nature, and not connected with any organic or traumatic causes, we ought to endeavour to produce not merely a certain *degree and amount* of uterine contraction (the great and primary practical point to which we always justly look), but also a certain *equability and uniformity* of contraction. At the same time I would repeat, that this part of the subject, like the whole question of the manner and means by which hemorrhage is prevented from the exposed uterine veins after every case of ordinary labour, stands, in my opinion, in need of new, careful, and extended investigations. I have, however, at present, no desire to encounter so wide and complicated an inquiry, and shall content myself with stating, in reference to the subject, the few following suggestions:

1. Uterine hemorrhage after the separation of the placenta in any of the stages of labour, is *not arterial* in its character. The utero-placental arteries are numerous, but so long and slender as to become readily closed; 1, by the tonicity of their coats; 2, by contraction of the uterine fibres upon the course of these vessels themselves as they pass through and amid the uterine structure; and 3, and principally by the changes in their tissues produced by the mechanical rupture of their coats, *torn arteries* being little if at all liable to bleed, and the placenta being separated by a true process of *avulsion*.

2. Hemorrhage, therefore, under the conditions supposed, is *venous* in its source and nature. Further, it is specially important to remark, that it is a *venous hemorrhage by retrogression*. The *forward* course of the uterine and utero-placental venous circulation is from the dilated maternal capillaries of cells of the placenta towards the periphery of the uterus and the ovarian and hypogastric venous trunks. In uterine hemorrhage the blood that escapes, instead of flowing onwards, regurgitates *backwards* into the uterine cavity.

3. The mechanism by which, after the separation of the placenta, this retrograde course of the venous circulation towards the cavity of the uterus, so as to lead to hemorrhage, is prevented, is probably of a compound character, or is effected by different means. Each of these means may be more or less efficient under different circumstances and at different times.

4. The most powerful of these preventive measures consists in the uniform and regular contraction of the uterine fibres. By this contraction the canals of the supplying arteries are constricted, and the venous tubes or sinuses which more immediately yield the discharge are directly compressed. The facility of this compression of the sides of the veins and the consequent diminution of their cavities, is promoted by the naturally thin, flattened forms of their canals, and by the fact that the proper contractile tissue of the uterus forms their second coat, the uterine veins consisting of the usual lining membrane of the venous system placed in direct contact with the muscular tissue of the uterus. At the same time it is to be recollected, that there seems to be often no direct relation between the degree of uterine contraction and the degree of tendency to hemorrhage, for, as we have just seen—1, no hemorrhage may occasionally be observed after delivery, though the uterus is not contracted to its usual degree; and 2, it may be present when the uterus is apparently well contracted; but, 3, there are, according to most anatomists, few or no *contracting* fibres in the structure of the os and cervix uteri, and certainly after delivery I have generally, if not always, found it remaining open, gaping, soft, and flaccid, even when the proper cavity of the uterus above felt shut and contracted, and its parietes hard and firm. Still when the placenta is attached to the surface of this *uncontracting* portion of the uterus, as in *placenta prævia*, hemorrhage is not common after its separation, unless some laceration of its vessels has occurred. Here we have post-partum hemorrhage prevented *without* the contractile mechanism, generally considered necessary for its avoidance, being almost

in existence. And, 4, in cases of spontaneous or artificial extraction of the placenta *before* the child, in some placental presentations and twin labours, the placental mass may be completely separated, and the uterus still remain *distended* by the presence of a child in its cavity, so as to prevent much contraction of its fibres without hemorrhage occurring. The venous trunks running to the uterus are not supplied with valves, and under the above and other circumstances, by what means in addition to, or in substitution of, the contraction of the uterine fibres, does nature prevent the retrograde flow of venous blood into the uterine cavity; or, in other words, by what means does she prevent uterine hemorrhage?

5. The structure and mutual relations of the venous sinuses of the uterus seem calculated to obstruct and prevent such a retrograde flow of blood in their tubes as to cause hemorrhage. The uterine veins are large, but of a compressed, flattened form, and arranged in several planes or floors above one another in the uterine walls. On examining these veins in several pregnant uteri, by dissecting them from the outer or peritoneal surface of the organ downwards towards the mucous, I found the following arrangement: each venous tube gives off numerous communicating branches to the veins of its own plane or floor, by a set of *lateral foramina*. When, however, a venous tube of one plane comes to communicate with a venous tube lying in the plane immediately beneath it, the foramen between them is not in the *sides* but in the *floor* of the higher or more superficial vein, and the opening itself is of a peculiar construction. Looking down into it from above, we see the canal of the vein below partially covered by a semilunar or falciform projection, formed by the lining membrane of the two venous tubes as they meet together at a very acute angle, the lower tube always opening very obliquely into the upper. In the folds of these falciform projections the microscope shows the common contractile tissue of the uterus. Do these semilunar or falciform projections, and the oblique communications of the lower with the higher planes of veins, allow the normal flow of venous blood from the deeper to the more superficial veins of the uterus, while after the placenta is separated they prevent that anomalous or retrograde flow of it from the more superficial towards the deeper-seated venous tubes which would produce hemorrhage? Here I suppose it possible that these falciform processes may act upon the same principle as the Eustachian valve, but in a less perfect manner, while by the obliquity of the communications between the different planes of veins, it may be that blood does not so readily retrograde into the deeper vessels, in the same manner that urine does not retrograde into the ureters from the bladder, in consequence of the oblique opening of the former into the latter. Do the uterine fibres seen in the venous falciform processes tend to aid this valve-like mechanism by diminishing, under contraction, the apertures between the different planes of veins?

6. One cause contributing to prevent hemorrhage after the total separation of the placenta, is the abstraction from the uterine vascular system of the derivative or sagescent power of the maternal circulation in the placental cells, and the consequent tendency of the blood to flow in the more direct and freely communicating channels that exist between the uterine arteries and veins. Besides, the general and direct forward current of the blood along the course of these large uterine veins diminishes, and in a measure destroys the tendency which it might otherwise have either to flow backwards, or to escape by any existing lateral apertures of the vessels.

7. Among the other remaining means by which hemorrhage is more or less prevented after the detachment of the placenta, I may mention—1, the occasional presence of tufts of fetal vessels left in the orifices of the uterine veins, and forming not only immediate mechanical obstacles, but nuclei for the ready coagulation of the blood; 2, the formation of coagula in some of the collapsed venous tubes and orifices; and, 3, the presence for some hours, or even days, after delivery, of the collapsed decidua over the apertures seen in the veins on the interior of the uterus.

To these few and important suggestions I am desirous to add one remark. Several of the natural means of arresting uterine hemorrhage that I have spoken of, admit of extended anatomical examination being applied to their more perfect investigation; and some of the observations that I have ventured to offer may be yet proved or disproved, by being tested by direct experiments with vascular injections thrown into the dead body.—*Northern Journal of Medicine*, Jan., 1846.

75. *Some Observations on Uterine Polypi and Ulceration.* By W. F. MONTGOMERY, M. D. (*Dublin Quarterly Journal of Medical Science*, Aug., 1846.)—In this highly interesting paper the author relates twenty cases of uterine polypi treated by him. From these cases the following general deductions are drawn:—

That very small uterine polypi, or polypoid excrescences, are of frequent occurrence.

That they are often not discoverable by touch alone, and so escape notice.

That they may even elude detection with the speculum, especially if the instrument used is not capable of separating the lips of the os uteri.

That they are a common cause of ulceration and menorrhagia, one or both; the cure of which requires, as a preliminary step, the removal of the polypus.

That while thus, on the one hand, a small polypus may escape detection, there is, on the other hand, a peculiar condition of the anterior lip of the os uteri liable to be mistaken for a polypus, and requiring a long time for its removal.

That the very small polypus of the os uteri is seldom solitary, and, in common with polypi of other kinds, is very often combined with other diseases of the uterus, especially with fibrous tumour.

That these small polypi of the os uteri, when occurring in women of advanced age, especially if they are of the vesicular kind, are often the precursors of a malignant form of uterine disease.

That polypus being very frequently accompanied by ulceration of the os and cervix uteri, and its concomitant pain and structural alteration, the symptoms are occasionally mistaken for those of cancer; which error is most likely to be committed if an examination should happen to be made just when a polypus of rather large size is passing through, but still engaged in, and distending the os uteri.

That in cases of larger sized polypi, ligature is the means most generally eligible, as being safer than excision, though not so expeditious; its application having, in general, the immediate effect of restraining the morbid discharges, and alleviating other symptoms, and ultimately curing the disease.

That polypi and polypoid excrescences of small size are best removed by torsion; or in some instances their destruction may be conveniently effected by caustic.

That with large polypi torsion is unsafe and should not be attempted.

That even with a polypus of small bulk, and slender pedicle, excision is not free from the risk of troublesome hemorrhage, while with those of large size, there is great reason to apprehend such an occurrence taking place to a very dangerous degree, even though the precaution may have been taken of firmly constricting the pedicle with a ligature previous to its division.

That in ordinary cases of benign polypus, when no other disease exists in the uterus, the removal of the tumour by ligature, or other suitable means, is, in the vast majority of cases, completely successful, even under circumstances apparently quite hopeless.

That in malignant growths, such as cauliflower excrescence, removal by ligature will sometimes effect a complete cure; and that, where the success is not so decided, much good may be done by the operation.

That the situation from which a polypus springs makes a considerable difference in the symptoms which it produces: a polypus of the lip of the os uteri giving rise to fewer symptoms and much less discharge, than one of very inferior size growing from any part within the os uteri.

That a polypus of only moderate size growing from the lip of the os uteri is not likely to interfere, injuriously, with gestation or delivery, and its removal may be effected by, or as a consequence of, the pressure which it sustains during the expulsion of the child.

That if a polypus, already detached, be too large to pass readily out of the vagina, it ought not to be allowed to remain there; but should be removed with the least possible delay, as its putrefaction may be attended with very unpleasant consequences.

That a fibrous tumour, originally formed in the substance of the uterus, may thence descend, pass through the os uteri, and form an ordinary pediculated polypus in the vagina.

That in the unimpregnated state of the uterus, this change will be effected

gradually, and in general very slowly, but that, should pregnancy occur, the descent and expulsion of the tumour may take place quickly under the expulsive action of labour.

That a polypus, even of large size, may thus make its appearance for the first time, immediately after delivery, no suspicion having been previously entertained of its existence.

That the cure of long-standing polypus, with large discharges, is liable to be followed by a condition of the system requiring precautions against determination to the head.

The instrument which Dr. M. always uses for applying the ligature to uterine polypus is the double movable canula of Niessens, and he says that he has never met with a case which was not manageable by its means.

The ligature which he prefers and always uses is silk salmon fishing-line, prepared by soaking it in linseed oil, in which state it combines the necessary qualities of great strength, perfect pliability and softness, and remaining unaffected by moisture.

For twisting off small polypi, he uses a forceps, consisting of a straight stem about eight inches long, set in a handle; at the extremity of the stem are two short spring-blades, with serrated tips, upon which slides a brace movable from the handle, by which they are easily pressed firmly together, and made to grasp very securely any object caught between them.

76. *On the Nature of the Membrane occasionally expelled in Dysmenorrhœa.*—Professor SIMPSON, in an interesting article on this subject, in the *Monthly Journal of Medical Science*, (Sept. 1846,) expresses the opinion, founded on numerous observations, that the membranes occasionally expelled in dysmenorrhœa, are not the results, as is generally supposed, of fibrinous or plastic exudations upon the free surface of the mucous membrane of the uterus, but that they consist of actual exfoliations of that membrane itself.

He gives the following as the grounds upon which his opinion rests:—

“*First.* The dysmenorrhœal membrane presents anatomical peculiarities that are never seen in any simple fibrinous or inflammatory exudation: and these anatomical peculiarities, on the other hand, specially pertain to, and are characteristic of, the structure of some mucous tissues, such as that of the uterus. One special illustration may suffice. Professor Reid, Krauss, and others, have shown, that the surface of the mucous membrane of the uterus is marked by numerous orifices of small tubular glands, crypts, or follicles, opening upon it (the uterine glands of some modern authors). This structure I have distinctly traced in different specimens of dysmenorrhœal membrane from different individuals.

“*Secondly.* The general configuration and character of the surfaces of the dysmenorrhœal membrane are such as would result from the origin which I have attributed to it, namely, the exfoliation or detachment of the mucous membrane of the uterus. In those instances in which the membrane is thrown off in one piece, and without disintegration, it presents exactly the flattened triangular appearance of the uterine cavity. Its sides may be so compressed that the expelled mass at first appears solid; but a little careful dissection or maceration will readily show that it consists of two layers, and that there are the remains of a cavity between them. The interior of the cavity is smooth, and marked by the orifices of the uterine mucous crypts that I have above alluded to. Occasionally we can easily trace three large openings at its three angles, corresponding to the openings of the two Fallopian tubes and cervix uteri. But the external surface of the mass is rough and shaggy, marking the effects of laceration from the tissue of the uterus. Sometimes we see a piece discharged quite smooth on one surface, and rough on the other. When this is the case, we may be perfectly certain that it is a portion only of the membrane which has been expelled, or, at least, preserved for inspection. For, if the portion of mucous membrane lining the anterior wall of the uterus alone, or lining its posterior wall alone, be discharged and examined (and not that of the whole cavity), it will necessarily display the apparent anomaly alluded to. If the membrane is thrown off in broken or disintegrated fragments, as sometimes happens, it will be more difficult to trace the structural characteristics that I have mentioned. Another form of difficulty is

occasionally produced by blood being infiltrated into or upon the dysmenorrhæal membrane. In some instances the membrane is found encased in one or more layers of coagulated blood; and if that blood has already become decolorized, and assumed a fibrinous appearance, mistakes might easily occur, provided the inquirer were not aware of this source of fallacy.

"One of the earliest descriptions of the dysmenorrhæal membrane upon record is given by Morgagni. He gives an exact account of the appearances which it presented in the case of a 'noble matron,' long afflicted at the menstrual period with 'pains like those of child-birth.' Morgagni's description of the dysmenorrhæal membrane expelled on these occasions is so exact and excellent, that I shall perhaps be excused quoting it. 'In almost the middle (as he states) of the membranous flux, a membranous body, as it appeared, was discharged from the uterus; and that in such a form, and of such a magnitude, as perfectly corresponded to the triangular form of the uterus: being moderately convex externally; on which surface it was unequal and not without many filaments that seemed to have been broken off from the parts to which they had adhered, but internally hollow; on which surface it was smooth and moist, as if from an aqueous humour, which it had before contained, but had discharged, at its own exit, by an ample opening, which was at one of its angles, that had been readily opened by rupture.'*

"*Thirdly.* The dysmenorrhæal membrane exactly resembles the decidua membrane (the decidua vera); and all our highest authorities in anatomy are, I believe, now willing to grant that, as pointed out by the researches of Sharpey, Weber, Goodsir, and others, the decidua vera is not a new membrane, formed in the uterus after conception, but merely the normal mucous membrane of the uterus hypertrophied, with its mucous crypts or follicles increased in size, and the cells of its interstitial tissue greatly developed and multiplied. In the dysmenorrhæal membrane the mucous follicles or crypts are perhaps not enlarged and developed to the same proportionate degree as they are in the decidua membrane. In other respects the two membranes are identical. They have the same triangular form. There is the same appearance in both of openings at their three angles, and in both these openings are occasionally more or less perfectly sealed up when the tissue of the membrane, in their immediate neighbourhood, is developed in an unusual degree. The external surface of each membrane has the same shaggy, ragged form. In each we have the same cribriform appearance upon their smooth internal surface, marking the orifices of the mucous follicles. When examined under the microscope, the interstitial or inter-follicular tissue of both membranes, shows a similar structure, namely, one wholly composed of an agglomeration or superposition of simple nucleated cells. And altogether, if, on the one hand, it be allowed that the structure of the decidua proves it to be the mucous membrane of the uterus in a state of high development and hypertrophy, then, on the other hand, the structure of the dysmenorrhæal membrane is so similar to that of the decidua, as to prove a perfect identity with the decidua in its characters, and, consequently, also in its origin.

"In some respects the evidence which we have in favour of the decidua membrane being merely a hypertrophied state of the mucous membrane of the uterus, is still wanting, in so far as regards the dysmenorrhæal membrane. For, *first*, in cases of patients dying at different periods of early pregnancy, a regular progression of observations has now been made, showing the gradual transformation of the true mucous into the true decidua membrane; and, *secondly*, in patients dying after delivery, and, consequently, after the separation of the decidua or lining membrane of the uterus, the actual absence of the mucous surface of the uterus has been often ascertained on dissection. I lately saw a case where the patient died six weeks after delivery, and still, at that late date after confinement, the mucous lining of the uterus was not yet regenerated. No corresponding series of observations has hitherto been made upon the actual formation of the dysmenorrhæal membrane before menstruation, or upon its actual absence after that period. But a more careful investigation of the state of the uterus after death, in patients who have happened to be suffering under membranous dysmenor-

* Morgagni, "The Seats and Causes of Diseases," &c. Vol. ii. p. 706.

rhœa during life, will, I have no doubt, afford the requisite data. It may not be uninteresting to add, that the absence of the mucous lining of the uterus in persons who have died after delivery, or who have been previously subject to membranous dysmenorrhœa, may have given rise to the strong opinions expressed in former times by several anatomists, and particularly by Morgagni, Chaussier and Gordon, in regard to the human uterus not being normally provided with a mucous membrane. Not meeting with that membrane under some circumstances and in some cases, they were induced to doubt its presence under any circumstances or in any cases.

“Modern physiology has made us sufficiently acquainted with the curious fact, that a portion of the epithelial layer of the mucous surface of various organs, exfoliates constantly and normally during the performance of the special functions of these organs. For instance, this holds true with regard to the epithelium of the stomach during digestion, and that of the uterus during menstruation. But there are few circumstances, either in healthy or morbid anatomy, so strange as that which I have attempted to prove in the preceding remarks, namely, that the proper mucous tissue of the uterus itself may, within the compass of a menstrual period, form, enlarge, separate, and again be reproduced; and further, that all this may occur and continue regularly for a succession of months, or, as sometimes happens, for a succession of years.

“I have no intention, however, at present of dwelling either upon the various pathological or practical views to which the opinion that I have above propounded regarding the origin and nature of the dysmenorrhœal membrane, very evidently points. It is enough perhaps to remark, that the observations which I have made go to demonstrate that the dysmenorrhœal membrane is not formed, as is generally believed, by a simple inflammatory effusion of plastic or coagulable lymph, and hence is not to be successfully prevented and combated by simple anti-inflammatory treatment. The action giving rise to it may in some cases be combined or complicated with inflammation. I have seen, for example, the membranous dysmenorrhœa in several instances co-existing with inflammatory induration and ulceration of the cervix uteri. But essentially, the normal action of the uterus or ovaries giving rise to the formation of the dysmenorrhœal membrane is not a state identical with inflammation, but a state identical with the condition of these organs after impregnation, and during the earlier weeks of pregnancy. It is so far a state and product natural to one special condition of the uterus, but here occurring at an unnatural time, under unnatural circumstances, and with unnatural frequency.”

77. *Ovarian Cyst of immense size, containing Hydatids and Glairy Fluid.—Tapping.*
—Death.—Sir PHILIP CRAMPTON said, that he had to present [to the Dublin Pathological Society] a very important preparation. The case was one of ovarian cyst, and its subject a lady aged about forty, in whom the disease had commenced nine years ago, from which time the tumour had gradually enlarged, until its bulk gave the patient the appearance of a female in the eighth month of pregnancy. Except by its size, it caused but little inconvenience until last year, and then the principal annoyance was a continual micturition; there was often dysuria, and sometimes retention, until at last she became unable to pass water, except in the supine position, and even then could not completely discharge the contents of the bladder. This, however, not being sufficient for the evacuation of the tumour, a large trocar was introduced, and about five quarts of a brown glairy fluid were drawn off. The patient fainted, but was recovered very soon, and next morning was cheerful and even gay, was free from pain, and able to pass water readily. Sir Philip, however, warned her brother of the possibility of inflammation supervening, favourable as the appearances were, and directing that if vomiting, or pain, or any unusual symptoms occurred, he should be sent for immediately. Unfortunately this direction was not sufficiently attended to. On Monday morning, at 6 A. M., the patient felt sickness of stomach, and vomited some bile, after which she became very faint; at half-past seven her sister was called up, who found her in a state of excessive prostration. Sir Philip was not sent for until eleven o'clock, and on his arrival he found her already dying; the pulse could not be felt at the wrist, nor at any point from that to the axilla. She suffered severe pain from the commence-

ment of the attack up to her death, which occurred at two o'clock in the afternoon of the same day, eight hours from the commencement of the symptoms of danger.

The body was examined after death; there was no trace of inflammation in the abdomen, in the pelvis, nor in any of the viscera. The only cause of death discoverable was, that some of the fluid of the cyst had passed into the peritoneum. The cyst, which was very large, had many hydatids adhering to its inner surface. This would have been an admirable case for extirpation of the cyst, if such an operation had been decided on, for the cyst had but one small adhesion, occupying a space of about a quarter by an eighth of an inch, while every other part of its surface was free, and had no adhesion whatever. The death in this case resembled that which succeeds to the rupture of an intestine, and is a mode of termination to life after an operation, that has been very rarely noticed. In some circumstances it agreed with the case described by Dr. O'Ferrall on last Saturday. In the case now described, there was the difference, that the effused fluid was not purulent. In all such operations some fluid is likely to escape, yet consequences of this kind are exceedingly rare. In at least nineteen out of twenty cases, no such result happens, yet as that one in which it would happen might be the very first to occur to the operator, he cannot be too cautious, and Sir Philip arrived at the conclusion, that in all cases the operation is to be postponed to the last moment,—till the tumour has formed adhesions: so long as it is floating about on the abdomen, his advice is, not to meddle with it.—*Dublin Quarterly Journal of Med. Science*, August, 1846.

78. *Fatal Menorrhagia*.—Mr. WHITEHEAD exhibited to the Manchester Pathological Society, the uterus and appendages of a virgin who died of menorrhagia at the age of seventeen years and five months. On inspection twenty hours after death, no organic lesion was found in any part of the body, which was everywhere drained of blood. The uterus appeared somewhat larger than natural, its parietes less firm, but nearly of the usual thickness. Its interior contained a clot of blood which occupied the entire cavity. This clot, from its lower extremity, which terminated at the os tincæ, to the part situated at the fundus uteri, measured two inches and a quarter; and between its two horns, one inch and three quarters. Each horn had a rounded extremity, was semitransparent and fibrinous, and terminated at the corresponding Fallopian orifice. The Fallopian tubes were empty and of the natural dimensions. The right ovary was a little larger than the left, and presented several distinct cicatrices in different stages of separation. One of these was recent, depressed, puckered, and appeared at first sight to have an opening in its centre, but it was afterwards found to be impervious. Immediately beneath the next most distinct cicatrix was a firm yellow body, smaller than the preceding. Another paler formation of a similar kind, but still smaller, was observed in the same ovary, but more deeply seated. There were also on the same side two vesicles of different sizes containing a thinnish glairy fluid, one of which was near the surface.

The left ovary presented on one of its sides a large bluish vesicle, projecting its peritoneal covering considerably above the surrounding surface; this was the size of a small hazelnut, and contained apparently nothing but serum. Two smaller vesicles, more deeply seated, and two well-marked yellow bodies, were also observed. The labia and cervix uteri were quite healthy. The inner surface of the uterus presented numerous openings scattered over every part of it, obvious to the naked view, some being sufficiently large to admit a good-sized bristle or the end of a lachrymal probe; they were largest and most numerous at each side of the fundus near the horns of the uterus, and at the contracted part of its body near the commencement of the cervix. The openings had a valvular arrangement, the greater number passing in a direction downwards towards the cervix, while those at the upper part of the organ appeared to pass towards the Fallopian orifices.

The patient had the lymphatic temperament strongly predominating, with fair complexion, smooth, waxy skin, and possessed a considerable degree of nervous irritability; conditions eminently favourable to the development of the hemorrhagic diathesis. She began to menstruate favourably at thirteen years of age, from which epoch the function was regularly performed, the discharge continuing about

four days at each return, and the health was unexceptionable till within a short time of her death. On a frosty day in December last she fell down in the street, by which she was severely shaken, but received no other injury. In ten or twelve days afterwards, being the natural menstrual crisis, she began to menstruate in the usual manner. For several days previously she had experienced a feeling of great languor, accompanied by alternate rigors and feverish reaction, and on the second day of the catamenial period she sat down on the step of a street door, after which she became unable to resume her employment. The menses continued to flow the usual length of time, but when the discharge should have ceased, it became a profuse hemorrhage, passing away in clots. This was arrested in the course of five or six days by the aid of medicine, leaving her, however, considerably reduced; but in ten or twelve days more the health and strength seemed to be tolerably restored. The menses on the succeeding occasion, which was at the beginning of February and about six weeks after the accident, were in great abundance, and did not cease till sixteen days after their commencement. On the 2d of March, being the third natural period since the accident, the menses again appeared. For the first two or three days the discharge bore the usual character, and was moderate in quantity, but it soon assumed the form of an alarming hemorrhage, which the prompt administration of remedies failed in the slightest degree to relieve. She died from exhaustion on the 15th of the same month, the bleeding having ceased about twenty-four hours before death.

Mr. Whitehead considered this case interesting, in a physiological point of view: first, in indicating the precise part of the uterus whence the discharge issued, and inferentially also the part which furnishes the catamenial product; and secondly, in seemingly suggesting the manner in which the latter is separated ordinarily from the circulating mass; namely, by simple exudation from the capillary blood-vessels of the inner surface of the uterus. He had no doubt that the blood, the loss of which occasioned the death of the patient, escaped from the openings previously noted; and judging from the exaggerated state of dilatation of these openings in this instance, and their extreme minuteness in ordinary circumstances, he believed they might possibly be the natural outlets by which the menstrual secretion finds egress.—*London Med. Gaz.*, September, 1846.

79. *Twin case—Impaction of the Heads.*—Mr. E. W. ETON records, in the *London Medical Gazette*, (July, 1846,) a very rare case of twins in which, after the lower and upper extremities and body of one child was extruded, it was found that the vertex of the second child presented immediately over the breast of the first, so that the chin of the latter rested on the occiput of the former; and the head of the former was firmly impacted in the pelvic cavity. Delivery was effected by truncating the extruded body about the seventh cervical vertebra, pushing up the head and then delivering the second child with the forceps. The child was born inanimate and could not be revived.

80. *Triplets.*—Mr. WM. PRETTY records, in the *London Medical Gazette*, Oct., 1846, a case of triplets, in which one child was born alive, with two fœtuses which had lost vitality for three preceding months. The mother was a primipara, and labour came on without any exciting cause, at the seventh month, as was computed. The largest fœtus was born last, and came into the world very much discoloured about the head and face, (nearly black,) and with just sufficient power weakly to cry, breathe, and exist for only three hours. The two small fœtuses were without fœtus, and resembled in colour others which have been preserved in spirits for several years. Their bodies were compressed from back to front, and their heads laterally, retained the arched top. The thickness of the smaller a little exceeded a crown-piece, that of the larger somewhat more, having an upper extremity deeply imbedded in its abdomen. They weighed respectively 4 oz. and 7 oz. avoird. The double placenta and membranes weighed 8½ oz. The child born alive weighed 3lbs. 8oz. and measured fifteen inches in length. They were all males.

The afterbirth consisted of two placenta, a single and a double one, with three membranous sacs. The largest placenta was in every respect normal; the double

one had lost its usual soft spongy texture, and had become firm, lobulated, and mixed up with a considerable quantity of fatty matter.

81. *Inversion of the Uterus*.—Mr. BURROWS communicated to the Newton Branch of the Prov. Med. and Surg. Association, two cases of inversion of the uterus. The subject of the first was 24 years of age, and in her second accouchement. Her first was a long, tedious labour; two or three practitioners were consulted, and she was delivered with forceps. The second was a breech presentation, child small, and labour comparatively easy. After the delivery of the child, he (Mr. Burrows) promoted contraction of the uterus, by grasping its fundus; it was then compressed by the hands of a female, whilst he made a slight traction by the cord, when the placenta appeared suddenly to come down into the vagina, as though it had been propelled from the cervix uteri. On passing the finger round it, he felt a conical mass, whose surface was soft and moist, and from which some blood escaped. He soon satisfied himself that the substance was the placenta, attached to an inverted uterus. He tried to peel off the placenta from the fundus uteri, to lessen the bulk to be returned through the os uteri; but as it did not separate easily, gave pain, and increased the hemorrhage, he sent for Mr. Batty, who arrived in about twenty minutes, during which he attempted the reposition of the fundus uteri with the placenta attached, but did not succeed,—and he had just ceased his efforts when Mr. Batty arrived, who used considerable force, whilst Mr. Burrows applied his hand above the umbilicus, and pressed downwards, to prevent the rupture of the uterine ligaments. The whole was returned through the os uteri, and the placenta followed the withdrawal of the hand. The patient was much exhausted, and died in twenty or thirty minutes.

The second case occurred a few weeks after the former. The labour had not been of an exhausting character; a female was directed to compress the lower part of the abdomen, as soon as the head and shoulders were expelled from the os externum; and when the child was born, a binder was applied tightly, so as to compress the abdomen and uterus, and promote its contraction. Though no traction was made by the cord, nor any effort to bring away the placenta, yet the uterus was inverted. Having the former case in his mind, which had occasioned him much unpleasant feeling, he resolved at once to attempt to return the fundus uteri with the placenta, to avoid hemorrhage and nervous irritation. The parietes of the uterus being thin, the os and cervix flaccid and yielding, the replacement was easily accomplished: the placenta having followed the extraction of the hand, it was found in the vagina, and immediately removed. The patient recovered, as well as she had usually done, and no unpleasant symptoms followed.—*Prov. Med. and Surg. Journal*, Aug. 5th, 1846.

82. *Inversion of the Uterus with Hemorrhage*.—The following interesting example of this accident, is recorded by Dr. T. R. MITCHELL, in the *Dublin Medical Press*, Sept. 9th, 1846.

"I was called," says Dr. M., "in great haste to Mrs. S., whom I found in charge of a medical practitioner, who stated that she had been delivered by him of her second child after a labour of eight hours' duration. The child was born naturally, and the placenta expelled in half an hour after its birth; that as he was about leaving the house she complained of acute pain in the back and groins, with a sensation of fullness about the vagina, and as if something had given way in her abdomen. This was followed by hemorrhage so great in quantity as to excite serious alarm: to this succeeded a number of fainting fits, from which it was difficult to arouse her. On my arrival two hours after delivery, I found that she had just recovered from one of them. The bed was saturated with blood; the patient was breathing hurriedly, with occasional gasping and deep sighs; the pulse was small and thready, 125 in a minute, and the heart's action greatly flurried; the prostration of strength and collapse were so complete as to lead me to suppose that rupture of the uterus had taken place. Large quantities of hot punch had been given before my arrival without any effect. On applying the hand to the hypogastrium, the uterus could not be felt, which induced me to make a vaginal examination, when I at once discovered that the uterus was inverted in the third degree. The tumour was very sensitive to the touch, and she complained

much when it was pressed. Forty minims of laudanum were given, and having oiled my right hand, I proceeded to reduce it, which, with some little trouble, I succeeded in doing, by pressure at first upwards and backwards, and then upwards and forwards in the axes of the pelvis, when I found it went up suddenly, and on following it into the uretus, I had the gratification to find that the uterus contracted firmly upon my hand. There was no bleeding of any consequence afterwards, and by continuing the use of the stimulants, she gradually revived. This lady continued in a very delicate state for some time, but eventually recovered perfectly.

"I should state that the gentleman in attendance positively assured me that undue force had not been applied to the cord.

"This case, I think, a very instructive one, well calculated to show the necessity for a vaginal examination, if the slightest doubt exists. It is a fortunate circumstance that this formidable disease occurs so seldom, this being the first case I have ever had, although there have been upwards of fifteen hundred women delivered since I became master of the hospital, and on referring to the registry, I cannot find an account of one out of nearly two thousand delivered prior to that period."

83. *Recovery from a severe injury to the Gravid Uterus.*—The wife of a Madras sepoy, in the last stage of pregnancy, was riding on a bullock, when the animal stumbled and fell, by which she was thrown forward, and pitched on one of the horns of the bullock, which entered about an inch above the os pubis, penetrating into the cavity of the womb. The wound was about two inches long, through which the hand of a child protruded, and from which there was slight hemorrhage. Labour was induced *per vias naturales*, and a full-sized child was born, but did not survive its birth. It had been injured by the horn on its neck and shoulder. On expulsion of the contents of the womb, considerable protrusion of the intestines took place, but they were easily and speedily returned to the abdomen, and the usual means, such as stitches, sticking-plaster, compress and bandage, applied to prevent their escape. On the appearance of inflammatory symptoms, recourse was had to the application of twenty leeches, the administration of castor oil, and employment of fomentations, which quickly subdued the rising inflammation. Next day there was not a bad symptom, and she rapidly recovered, with scarcely any other feeling than is common to women after the ordinary process of delivery.—*London Med. Gaz.*, October, 1846, from *India Journ. Med. and Phys. Sc.*

84. *Composition of Kyesteine.*—Dr. ZIMMERMAN, in a paper, in *Casper's Wochen-schrift*, (May 30, and June 6, 1846,) on the peculiarities of the urine in pregnant women, states that the substance hitherto described as kyesteine, and about which there has been so much discussion of late, consists almost entirely of the infusoria termed vibrions. These animalcules, he states, are first formed in the lower layers of the urine, which they render turbid; they then rise in heaps to the surface, where they form, together with large crystals of ammonio-phosphate of magnesia, and amorphous phosphate of lime and urate of ammonia, the well-known yellowish-white layer which so commonly occurs on the urine of pregnant women. These vibrions were also observed very largely by Simon in portions of kyesteine which he examined.*—*London Med. Gaz.*, Sept., 1846.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

85. *Remarkable Monster.*—M. VELPEAU presented to the Academy of Sciences, in Paris, May 25th, 1846, in behalf of Dr. GORRE, physician at Boulogne, the following notice of a monstrous child.

It was born at Quinta de Corveiros, in the kingdom of the Algarves, on the 5th of September, 1845. The parents are perfectly well-formed and in good health. The mother, aged twenty-two years, had previously given birth to two well-formed

* Animal Chemistry, Dr. Day's translation, vol. ii. p. 331.

children, and during her pregnancy with this, had suffered no injury, nor experienced any violent mental uneasiness; the delivery also was not painful, and was accomplished at the regular period of nine months.

The child, now in its eighth month, is in perfect health. Its head, trunk and arms are perfectly natural, and well developed. But it has a third leg proceeding from behind directly on the median line, so that it is scarcely seen, when the child lays on its back. This supernumerary member is of equal length with the others and the foot is furnished with ten toes.

In front, there is a double penis, separated at their bases about four centimetres, (about an inch and a half.) There is a double scrotum corresponding, each of which contains a single testicle. Each penis has its urethral canal, but these would seem to communicate with but one bladder; at all events, when urine is discharged, it proceeds in equal quantity from both orifices.—*Comptes Rendus*.

Should this child survive, will the French law allow him to marry? As germane to this subject, allow me to ask whether you have not a correspondent in North Carolina, who can verify the statement made some time since in the newspapers, that the Siamese twins are married? T. R. B.

86. *Antimony in the Living Organs*.—In a memoir presented by M. MILLON to the Academy of Sciences, June 22, 1846, on this subject, he deduces as the result of his experiments, the following conclusions:

When antimony penetrates simultaneously all the important organs, the lungs, the brain, the intestinal coats, the subject yields to the intoxication, and seems to die in every part at the same time, the tissues being reduced to an extreme state of emaciation.

If it be concentrated in the brain, the result is equally fatal, but death occurs in the midst of a train of nervous symptoms, which indicate the principal seat of the disease.

On the contrary, when it reaches organs less sensible, or tissues of inferior organization, or the cellular or osseous systems, and its effects disappear, we have then reason to believe in its elimination or total removal.

Should not this view of antimonial intoxication lead us to suspect analogous conditions in diseases from the introduction of lead? Certain organs escape its poisonous effects; and may not the concentration of symptoms in the abdomen, the nervous system and the extremities, indicate that the lead occupies these correspondent parts?

At all events, this mode of examination may aid in developing the nature of those affections in which the presence of poisonous substances is suspected, rather than demonstrated.

The enormous development of the liver, following after the administration of an emetic, is also a fact which should not pass unnoticed. Percussion should be applied in order to ascertain whether in man the frequent administration of antimony is coincident with a rapid enlargement of that organ.—*Comptes Rendus*.

T. R. B.

87. *Feigned Diseases*.—Dr. FERGUSSON, in his "*Notes and Recollections of a Professional Life*," speaking of the late war between England and France, says, "artificial ulcers of the legs were all but universal amongst young recruits, and spurious ophthalmia was organized in conspiracy so complicated and extended, that at one time it threatened seriously to affect the general efficiency of the forces, and was in every respect so alarming that the then military authorities durst not expose its naked features to the world. These are the results and ever will be the results, whilst human nature is constituted as it is, of service for life."—*Blackwood's Magazine*, August, 1846.

T. R. B.

88. *Arsenic*.—*How long before its symptoms appear?*—Two bottles of wine were left at a house in Paris, apparently as a present, but being unaccompanied by any message, the wife became suspicious that they had been sent with an evil intent. The husband, however, opened one of them and poured out a quarter of a glassful, which he drank. Finding it quite bitter, he, after a single swallow, rejected the rest. His wife also tasted a very small portion. During the night (three

hours after taking it), he was attacked with vomiting, and a general prostration of strength, succeeded by somnolency. At eleven o'clock the next morning, (being an interval of ten or eleven hours,) she was seized with similar symptoms. The family physician was now consulted. A portion of the suspected wine was given to a dog, who died in four hours after, with vomitings and convulsions. M. Chevalier was ordered to examine the liquid, and he found that it held in solution a large quantity of arseniate of potash.

An individual named Gineston was arrested on suspicion of having sent this wine, and on his trial, the above facts were proved.

The counsel for the defence presented the following questions, which they had submitted to Messrs. Jules, Barse and Devergie, with their answers.

1. Are the symptoms above stated, such as would occur from poisoning by arseniate of potash? They reply, that the symptoms from taking it in a dangerous quantity always occur speedily; in a quarter of an hour, half an hour, or at most three quarters. In this instance, the husband was seized at the end of three hours, and the wife, at eleven hours. This delay could not be explained by supposing that the stomach was full. In spite of this, absorption of the liquid would have gone on, and induced earlier indications of its poisonous nature. They deny also that drowsiness, somnolency, and chattering of the teeth, are symptoms of taking this poison.

2. What quantity of wine containing fifteen milligrammes of arseniate of potash per gramme of wine may be taken into the stomach, after a meal, without causing death? A wine thus charged, could not be taken, without inducing symptoms, if not mortal, at least much more severe than in the present instance. The witnesses say that *Fowler's Solution is identical with arseniate of potash*. Now twenty-two drops of this make a drachm, while eighteen drops is the extreme limit of safety. More than that will induce symptoms of poisoning, and M. Payeu has proved, that a person cannot gargle his mouth with wine in order to ascertain its taste (and not even swallowing a drop) without retaining on the mucous surfaces of the mouth, at least two grammes of the liquor, *i. e.*, double the dose necessary to induce severe symptoms. They hence ascribe the illness of both husband and wife to indigestion. *Gazette des Tribunaux*, 9th and 10th of August, 1845.

This case requires comparison with the remarks of Christison. See his *Treatise on Poisons*, 4th Edition, pages 299, 300.* T. R. B.

89. *Atropa Belladonna*.—Several deaths have recently occurred in London from eating the berries of this plant, the deadly nightshade. It seems that they have been extensively hawked about for "nettleberries," and recommended as nice for tarts, puddings, &c.

On a legal inquiry being made at one of the police offices, it appeared by the deposition of a female, that through such recommendation she had been induced to purchase a pint of them. The next day, being the anniversary of her wedding, she made a tart with the berries, after cutting off the stalks, and also cut up two apples, which she mixed with them, and, with her husband, partook of it. Her husband ate more heartily of the pie than she did. Before the remains of the dinner were removed, a customer came in to pay some money, and was accompanied by a child named Samuel Jones. The little boy looked very anxiously at the tart, and she gave him some. A few minutes after her husband had finished his dinner, he said he was drowsy, and went into the parlour. His lethargy soon increased, his countenance changed colour, and the pupils of his eyes became dilated. He said he had a very strange coppery taste in his mouth, and that he would go up stairs, and lie down on the bed. As he went up, he staggered, and upon entering his bed-room, fell, and became insensible. He subsequently became delirious and convulsed. She obtained an emetic for him, but could not get it down, as his teeth were firmly set. He attempted to strike her in his delirium, and when he recovered a little, said he was sorry and asked her to kiss him. These were the last words she heard him speak. He was conveyed to the London Hospital at seven o'clock the same evening, and died at ten the next day. The child to whom she had given some of the tart, died on the same

* A gramme is twenty grains; a milligramme one-fiftieth of a grain.

day. She did not eat so heartily of the tart as her husband, but she was very seriously affected. She experienced a nauseous taste like copperas, in her mouth, a tingling in the fingers, and stupor. Subsequently she lost the use of her limbs, and was still suffering severely.

Another lad deposed that he had purchased some of the berries from the hawker, and ate them, and soon after found his throat parched, and was conveyed to the hospital. A post-boy proved that after eating only half a dozen of the berries, they had thrown him into a high state of fever, and given a most unnatural redness to his face.

The hawker, who had been arrested, and who was now present, asserted that he had eaten whole pints of the berries without injury. He was remanded to prison, on a charge of manslaughter, and subsequently found guilty on this charge. —*Lancet*, August, 1846. T. R. B.

90. *Death by Strangulation, Homicide, or Suicide.*—A female, aged 80 years, was on the 11th of June, 1845, found dead, hanging from a beam in the house where she resided. This house belonged to B. Buscatel. It consisted of two rooms on the ground floor, and a loft above, which was not planked throughout, except with a few loose boards directly over the place where the bed of the female was placed. She hired one of the above rooms, and Buscatel and his family occupied the other. The body was found hanging from one of the beams in the middle of the room, by a cord, which formed a running double knot round the neck. One end was thrown six times round the beam, and the other, which was loose, was thrown over a pile of vine faggots.

The ends of the toes were about three inches from the floor, and at about four inches from them, in front of the body, was a chair turned over on its back. Behind the body, was a ladder resting on the beam, to which the end of the rope had been attached. The head of the female was uncovered; her cap was at her feet, a little to the left. The countenance was stained with blood, proceeding from the nose and ears. On that part of the cap, which corresponded to the left ear, there was a bloody spot. So also on the neckhandkerchief, in the same place. The blood was coagulated and still humid. There were no marks of blood on the floor.

The rope also was spotted with blood. One was on a part beyond the reach of the hands, and the other on the loose end, and it was observed, that to the very extremity of this, a gray hair adhered. Indeed, several gray hairs were seen sticking at different parts of the cord.

The body was completely clothed. On the left sleeve, on the back of the left hand, and in front of the petticoat, there were stains of dust, still moist; so much so, that to the latter, there were grains of oats and pieces of straw adhering. And it was observed, that at a short distance behind, where the body hung, there was a crack in the floor, and in this were seen oats and straw corresponding in appearance to those attached to the petticoat. This spot was also moist.

The right knee of the deceased was covered with a spot of dried dust, but beyond this, there were no external marks of wounds or contusions.

Many of these circumstances contradicted the idea of suicide. The female was very aged and of short stature: the knot was of a kind but little known to females; there were no marks of blood on the hands; the bloody spots observed could not have been made by her, as they were beyond the reach of her arms; while the marks of blood and dust on the dress and on the left side of the face indicated violence, previous to suspension.

On dissection, Dr. Paris found that the root of the tongue was swollen and ecchymosed, and this ecchymosis extended to the palate. The mucous membrane of the pharynx and the cellular tissue between the os hyoides and the larynx were injected with blood, while the epiglottis at its base was also ecchymosed. Now the cord could scarcely have produced these effects, as it passed below the os hyoides, and not having broken that bone, could not affect the deeper seated parts.

There were also found, on dissection, in front of the clavicle, two ecchymoses, with blood infiltrated into the cellular tissue. No external appearance indicated this, and it was therefore evident that the force producing it must have been of a soft, yielding nature, like the fingers of the two hands resting on the clavicles.

Dr. Paris, from all these facts, gave it as his opinion, that death had been caused by manual strangulation, and that the suspension was subsequently made.

There was considerable testimony involving Buscatel as the murderer, and he was found guilty, and sentenced to imprisonment at hard labour for twenty years.—*Gazette des Tribunaux*, October 4th, 1845.

T. R. B.

91. *Infanticide*.—The neighbours of Margaret Francon had for some time suspected from her appearances, that she was pregnant. At last a report spread that she had been delivered. The mayor of the arrondissement visited her, in order to institute a legal inquiry. She denied both, ascribed her increased size to taking cold, and from which she had been relieved by a bloody discharge. A physician was called in, who, on examination, declared that she had been recently delivered.

After continuing the farce for some time, Margaret at last confessed that she had been delivered of a dead infant, which she had wrapped in linen and concealed in her bed, and three days afterwards had buried it in the ground near her house.

The child was born on the 28th of May. It was examined on the 6th of June. It was of the full size, well made, and pronounced to have lived after birth. The head was considerably flattened transversely, and, on dissection, a quantity of blood was found in the cellular tissue which unites the skin with the bones of the cranium. This effusion was greatest in the two parietal regions. The physicians pronounced it to be the cause of the child's death.

But was this effusion the result of crime or of accident? Might not a tedious delivery produce such a compression? In the case of Margaret, this was not probable, since, in her confession, she had stated that it was neither tedious nor difficult, having continued only three-quarters of an hour, and, above all, she was delivered without assistance.

This effusion further proved that the child had lived after birth.

The testimony of a number of physicians all tended in favor of the infanticide. Dr. Molière, of Tournon, also an examiner of the body, counteracted the effect of this, by expressing a doubt whether the delivery might not have caused this effusion.

The public prosecutor, fearing that the prisoner might totally escape, abandoned the charge of murder, and asked a verdict on that of homicide by imprudence, and she was convicted of this and sentenced to imprisonment for three years.—*Gazette des Tribunaux*, Jan. 2d, 1846.

T. R. B.

92. *On the Composition of Air at different heights in close apartments*.—M. LASSAIGNE has drawn the following conclusions from a series of experiments on this subject.

1. In rooms where the air is confined, and had been respired for some time without renewal, the carbonic acid expired, is not found exclusively, as some have asserted, in the lower strata

2. In accordance with the law of physics, confirmed by experiment, the carbonic acid is nearly equally diffused throughout the whole volume of confined air which has been respired by a certain number of persons.

3. The slight differences observed would lead to the inference, that the proportion of carbonic acid was, under these circumstances, greater in the upper strata, were it not that the differences may depend upon errors in the quantitative estimation of the gaseous components of the air.

4. These facts show the erroneous principles upon which some modern theories of ventilation are based; for it is clear that the *whole* mass of air which has been respired by many persons requires renewal, so that the vitiated air may be entirely expelled.

5. The uneasiness experienced from respiring the heated air in the upper part of crowded and badly ventilated theatres is due rather to its rarefaction, than to its chemical composition; for the latter is almost identical in the upper and lower strata. The acts of respiration are more (?) full and frequent when rarefied air is breathed, hence certain physiological effects are induced, which are not observed in the respiration of air at the common temperature.—*London Medical Gazette*, from *Comptes Rendus*.

T. R. B.

93. *Janipha Manihot*.—The root of this plant, which in its natural state is so

poisonous, is, by a simple process, converted into nutritious food. After it has been washed and scraped, it is grated and pressed into an elastic tube, which is called a matappi, and has been made of the plaited stems of a calathea. The tube being filled, its upper end is tied to one of the beams of the hut, so that its opposite end, which possesses a loophole, remains a few feet from the ground; a long pole is pushed through the loophole, the shorter end of which is fixed, while the longer being pressed down, serves as a powerful lever, and the elasticity of the tube presses the grated cassada forcibly together, and the poisonous juice escapes through the interstices of the plaits. The mass, deprived of its juice, is then gradually dried, and, if required, some of the flour, after it has been sifted, is put upon a pan over a fire, and in a few minutes a cake, resembling an oatmeal cake in appearance, is ready. Violent as the poisonous juice of the cassada root proves to be, its narcotic principle is so volatile that it escapes by being exposed to fire; the Indian forms therefore, a sauce of the juice, which resembles ketchup or soy.—*Sir Robert Schomburgk on the Natives of Guiana, in Jameson's New Edinburgh Philosoph. Journal*, October, 1846.

T. R. B.

94. *Opium not poisonous to the Rabbit.* (*Comptes Rendus*, March, 1845.)—M. LAFARGUE, having observed that the poppy was a favourite food with the rabbit, on which it thrived and grew fat, felt some curiosity whether that animal would be affected by opium. For this purpose, he dissolved three grains of the acetate of morphia in a quantity of water, and mixed with a certain quantity of bran, which a rabbit ate in two days, but was not in the least affected by it.—*Edinburgh Med. and Surg. Journal*, October, 1846.

T. R. B.

95. *Carbonate of Lead.* (*Journal de Pharmacie*, June, 1845.)—A man, twenty years of age, troubled with heartburn, took by mistake, instead of chalk, about 300 grains of carbonate of lead. Shortly after, he was seized with a sense of burning in the epigastric region, followed by obstinate vomiting. Twenty-four hours after he had swallowed the dose, he was seen by M. SCHUBERT, who found him suffering inexpressible agony; the face was swollen, the eyes brilliant and projecting from their orbits; the tongue dry, and the thirst inextinguishable. The abdomen was swollen, and was the seat of acute pain, which the slightest pressure augmented, but which firm pressure rather relieved. The vomitings had ceased of themselves, but the bowels remained constipated. Sulphate of magnesia with opium was therefore administered, as well as the same salt in an oily emulsion, under which all the symptoms rapidly disappeared.—*Ibid.*

T. R. B.

96. *Condition of the Brain in persons who die by Strangulation.*—Dr. GEORGE BURROWS, in his work on Disorders of the Cerebral Circulation, reviewed in our last number, makes the following important remarks:—

“It may now be affirmed that the encephalon is not exempt from this law in physics—the gravitation of the fluids to the lowest part of the corpse. The discovery of the operation of this force on the blood, within the cranium after death, suggests a precaution very essential to be followed, when it is desired to ascertain the precise amount of congestion of the cerebral vessels at the time of death. In such cases, a ligature should be placed round the throat of the corpse, and drawn sufficiently tight to compress the cervical vessels, and arrest all flow of blood through them. This precaution will be most required in the examination of bodies, where, from the kind of death, the blood may be suspected to remain fluid in the heart and great blood-vessels. The depending or elevated position of the head, during the examination of the body, will not then induce deceptive appearances, which mislead us in our conclusions as to the previous amount of congestion in the cerebral vessels.”

This caution, (says the reviewer,) is rendered the more necessary, because the non-congested state of the brain, which has been observed in persons who have been hung or strangled, has been adduced in proof of the iatro-mathematical proposition, (viz., that of a fixed quantity of blood circulating within the cranium.) But Dr. Burrows shows that the brain may, or may not, be congested according to circumstances, and these circumstances consist in the mode in which the strangulation is effected and in the anatomy of the cerebral vessels. He thus

accounts for the occasional absence of cerebral congestion in those who have suffered death by hanging.

"When criminals are hung by the executioner, the knot of the rope is usually adjusted on one side of the neck, and it is found, after death, beneath the ear, resting on the mastoid process. It has been often observed, in the dissection of such criminals, that the cheek and integuments on this same side of the head are not near so livid and congested as on the other side. The pressure of the rope has not completely obstructed the return of blood through the external jugular vein on the one side, although it has effectually stopped the current on the other. In such cases, it is probable, that the deep-seated internal jugular vein on the one side has only been partially compressed, and has permitted, to a certain extent, the return of blood from the internal parts of the cranium.

"But there is another still more efficient cause of this occasional absence of congestion of the cerebral vessels after death by hanging; it is the subsidence of the fluid blood after death, while the body is yet suspended, through the cervical vessels which are not completely obliterated by the pressure of the cord. And it should be recollected that there are some channels which are scarcely, if at all, affected by the compression of the rope. These other channels are the vertebral sinuses and spinal plexus of veins, so ably delineated by M. Breschet."

The sinuses of the cranium may also be drained otherwise than through the vertebral sinuses. In examining the bodies of those who have died by strangulation, the great vessels of the neck are usually cut across to get at the thoracic viscera, and then when the head is elevated to open the skull, the blood gravitates and flows from the cut ends, and the blood-vessels, (previously congested,) are rendered comparatively empty. Dr. Burrows further observes, in proof of this explanation, that in other instances, where life has been destroyed by obstruction of the respiration, congestion is usually present.—*Brit. and For. Med. Rev.*, October, 1846.

T. R. B.

97. *Presumption of Death.*—In the State of New York, as well as in other states of the Union, an absence of seven years without being heard of, raises the legal presumption of the death of the person. It is probable that this may, for the reasons stated below, be hereafter considered as too short a term.

The Master in Chancery was directed to inquire and state whether Mary Bilton was living or dead, and if dead, when she died. He reported that she died in 1821, that date being seven years after she was last heard of. The evidence in support of this finding, was given by a person not a relation, who deposed that Mary Bilton, in 1809 or 1810, when she was about 16 or 17 years of age, clandestinely left the house of her father, who was a small farmer in Yorkshire, and that she had not been heard of since the year 1814, when she wrote a letter to her sister, dated at Portsmouth, and announcing her intention of going abroad. The court considered the master's report to be grounded upon insufficient evidence, and refused accordingly to confirm it. The Vice Chancellor of England said: "It strikes me that there is considerable difficulty about this case, which, like every case of the same nature, must be determined by its own peculiar circumstances. Here, a girl about 16 or 17 years of age, whose father was a farmer, chose, for some reason which does not appear, to leave her father's house, and to go no one knows whither. But it seems, that in August, 1814, she was at Portsmouth, and that she then intended to go abroad. Therefore, it is but reasonable to presume that all along she had been concealing herself, and that she never intended to return home. The mere fact of her not having been heard of since 1814, affords no inference of her death, for the circumstances of the case make it very probable that she would never be heard of again by her relations. How can I presume that she died in 1821, from a fact which is quite consistent with her being alive at that time? The old law relating to the presumption of death is daily becoming more and more untenable. For, owing to the facility which traveling by steam affords, a person may now be transported in a very short space of time from this country to the backwoods of America, or to some other remote region, where he may never be heard of again."—*London Law Review*, October, 1846, from *Simons' Chancery Reports*, vol. 14, *Watson v. England*.

T. R. B.

98. *Poisoning with Oxalic Acid.*—At the recent meeting of the British Association, Dr. LETHELY read a paper on this substance. The following notices, taken from the *Literary Gazette* and the *Athenæum*, will give an idea of its contents, until we receive the communication in full.

Dr. Lethely asserts that oxalic acid exerts a corrosive influence upon the tissues of the stomach. And in proof, he cited post-mortem examinations of the human subject, his experiments upon animals, and the result of his experiments with different solutions of oxalic acid on the various animal textures. With regard to the effects of oxalic acid upon the living body, it has hitherto been a question with physiologists how it produces its quick and energetic action. Experiments show that this poison is absorbed, and that it may be detected in the blood and urine; post-mortem examinations also indicate that the former fluid is deprived of its power of spontaneous coagulation. Dr. Lethely thinks it reasonable therefore to infer, that it exerts some specific influence over the vital properties of this fluid, and so deprives it of the power of sustaining life. The second notice is as follows:—

It is stated by Dr. Coindet, Dr. Christison, and others, that oxalic acid does not appear to have any corrosive action on the stomach like the mineral acids. Dr. Lethely, however, remarks, that these statements are opposed to the observations which he has made. In every case examined by him, the stomach, after death, was found to be so completely corroded, that it would not hold together. Numerous experiments were made with various animal tissues, such as submitting skin, stomach, intestine, muscle, and tendon, to the action of oxalic acid of different strengths. After standing about twelve or fourteen hours at a temperature of 60° F., it was found that the cellular and mucous tissue of each underwent either complete solution, or else was so softened as to break down under the pressure of the fingers and thumb; the albuminous and muscular tissues were also softened, and looked as if they had been scalded. The solutions were then filtered and evaporated in a water bath; by which means a gelatinous looking mass was obtained, and the oxalic acid had so entered into combination with the gelatine, that it could not be dissolved out in its usual manner by the action of cold alcohol.

T. R. B.

99. *Murder by a Deaf and Dumb Person.*—At the court of Assizes of L'Ardeche, on the 25th of August, 1846, Lewis Chavanon, aged between fifty-five and sixty years, was arraigned for murder. His countenance was remarkably expressive, and he signified by gestures to the court, that he was deaf and dumb. A near neighbour was sworn as interpreter.

It appeared in evidence, that Chavanon had been deaf and dumb from birth, that he is, notwithstanding, a man of intelligence, and of extremely violent temper and vindictive habits, so as to be feared by many. He appears particularly to have treasured enmity against all those who at any time had made purchases from his father.

A witness deposed, that repeatedly Chavanon had threatened to shoot him, if he found him on land which he had purchased three years previous from the father, and these threats deterred him from further purchases.

M. Billon had purchased, about four years ago, from the father and brother of the criminal a part of the house occupied by them. The entrance and stairs were to remain free to both. This sale encountered the intense displeasure of Chavanon, and his repeated threats induced Billon to resell to a person named Treille. The hatred was now transferred to the new purchaser.

On the 24th of May, Chavanon encountered Treille on the common stairs, and by shaking his fist and putting himself in the way, endeavoured to prevent his passage up. Treille repelled him and caused him to stumble. On rising he drew a pistol from his pocket and fired it after Treille, inflicting a wound which caused immediate death.

The violent temper and malignity of the accused were proved even by his sister. It appeared also, that he had for a long time threatened injury to Treille and to his wife, so that the latter scarcely dared to pass in and out of the door.

The king's attorney urged his punishment, on the ground of his superior general

intelligence. He was sentenced to ten years' imprisonment and to a payment of 1000 francs to the widow and children.—*Gazette des Tribunaux*. T. R. B.

100. *Poisoning by Cantharides*.—The following French case is curious, from the repeated attempts made to destroy life. The accused was a man, aged forty-one years, a carpenter by trade, and of an appearance, gestures, and conversation, nearly verging to idiotism. His attempts were made on a step-brother, named Hervonet.

During May, 1846, Hervonet, shortly after eating some soup, which tasted extremely bitter, was seized with violent pain in the stomach and bowels; he could not pass urine, but with extreme pain, and the quantity discharged was small and bloody. After suffering several hours, he was enabled to sleep, and on waking, found himself much better.

He had no suspicion of the cause of this illness, but during the night of the 5th of July, he was seized with similar symptoms. Two hours previous, he had eaten soup of similar bitterness to the last. This time, his sufferings were more severe and longer continued, and they only yielded after copious draughts of oil and sweet milk, which excited copious vomiting. Even yet he had no idea of any intent at poisoning.

On the evening of the 12th of July, he found in his soup, a black substance which at first he supposed to be fragments of vegetables. A portion of this adhered to his palate, he detached it with his finger, and examined it by the light, but could discover nothing certain, except that the taste was precisely similar to that experienced in the two previous instances. The next morning, he was impressed with the idea that it was cantharides, and all doubt was removed on showing it to M. Drew, a medical man, who also informed him that two days previous he had seen his step-brother purchasing medicines from an apothecary.

Hervonet denounced his brother to the authorities, and as soon as Poirier heard of the charge, he fled, but was soon retaken. He confessed that he had purchased a blistering plaster on the 10th of July, and mentioned where he had hid it. On obtaining it all the plaster was found scraped off. It was also proved that he had made several purchases of the same nature, and an apothecary deposed, that one of the plasters sold contained two grammes of cantharides.

The character of Poirier was proved to be extremely bad—a thief—of idle, loafing habits, and a burden to his relatives. His father, aged eighty, had given his property to his son-in-law and daughter, leaving Poirier only an allowance.

The jury found him guilty, and he was condemned to death, but scarcely had sentence been pronounced, before eleven of the jurymen united in a petition for a commutation of punishment. His apparent idiocy seems to have been the ground for this.—*Gazette des Tribunaux*. T. R. B.

MISCELLANEOUS.

101. *Abstract of Researches on Magnetism and on certain allied Subjects; including a supposed new imponderable*.—By Baron Von REICHENBACH. Translated and abridged from the German, by Wm. Gregory, M. D., F. R. S., Prof. of Chemistry, &c. The most extraordinary work that has been for many years issued from the press, is that, the title of which we have just given. It professes to give an account of the discovery of a "new imponderable," through which we are to realize a clear and satisfactory solution of many problems in the mental and physical constitution of man, which have puzzled mankind from the earliest ages. The statements it contains are, if possible, more startling and incredible than those made by Hahnemann, in relation to infinitesimal doses, or of Elliotson and others, respecting mesmerism. Nevertheless the high reputation of the author and that of his learned translator and annotator, seem to justify our occupying a few pages with an account of the Baron's supposed discoveries. Neither the original work nor the translation has as yet reached us, but we are enabled to collect from the abstracts in *Ranking's Half Yearly Abstract*, for July, and in the *Edinburgh Med. and Surg.*

Journal, for April last, a sufficiently full sketch of these revelations to satisfy our readers.

Baron Von Reichenbach thinks he has demonstrated that magnets act on the human body especially in certain conditions; and further, that he has demonstrated the existence, *in magnets*, of two forces, one which attracts iron and affects the needle, and one which acts on the nervous system, and which he has found unmixed *in crystals*. This new power, which he is disposed to view as the true agent in animal magnetism, he says, "is transferable from one body to another and is conductible through matter. A body may be, for a time, charged with it, and this is the true explanation of the fact, now demonstrated by the author, that a glass of water, as stated by Mesmer and his followers, may be magnetized by contact with a magnet, although that term is improper.

"But perhaps the most striking characters of this new power are, that it assumes, like electricity and magnetism, a polar arrangement in bodies, and that bodies charged with it are luminous, especially at the poles. The light, it is true, is only visible to certain sensitive individuals; but not only are such persons of tolerably frequent occurrence, but the author has gone far towards demonstrating, that, although invisible to ordinary eyes, actual light, nevertheless, does emanate from the poles of powerful magnets.

"The author finds the new power in many unsuspected quarters, in the sun's rays, the moon's rays, heat, electricity, friction, and, above all, chemical action; and the numerous and beautiful applications which at once suggest themselves, give a tenfold interest to this part of his researches. The human frame, especially the hand, whether in virtue of the incessant chemical changes going on in the body, or independently, is a rich source of the new power."

The new influence which the author thinks he has detected in magnets, in crystals, in light, heat, electricity, and chemical action, is due, he confesses, to the existence of his "new imponderable."

"Magnets of 10 lb. supporting power," says the author, "when drawn along the body, downwards, without contact, produce certain sensations in a certain proportion of human beings. Occasionally in 20, 3 or 4 sensitive individuals are found; and in one case, out of 22 females, examined by the author, 18 were found sensitive. The sensation is rather unpleasant than agreeable, and is like an *aura*, in some cases warm, in others cool; or it may be a pricking, or a sensation of the creeping of insects on the skin; sometimes headache comes rapidly on. These effects occur when the patient does not see the magnet, nor know what is doing; they occur both in males and females, although more frequently in females: they are sometimes seen in strong healthy people, but oftener in those whose health, though good, is not so vigorous, and in what are called nervous persons. Children are frequently found to be sensitive. Persons affected with spasmodic diseases, those who suffer from epilepsy, catalepsy, chorea, paralysis, and hysteria, are particularly sensitive. Lunatics and somnambulists are uniformly sensitive."

Healthy sensitive persons observe nothing further than the sensations above noticed, and experience no inconvenience from the approach of magnets. But the diseased sensitive subjects experience different sensations, often disagreeable, and occasionally giving rise to fainting, to attacks of catalepsy, or to very violent spasms. In such cases there occurs an extraordinary acuteness of the senses; smell and taste, for example, become astonishingly delicate and acute. The patients hear and understand what is spoken three or four rooms off, and their vision is often so irritable, that, while, on the one hand, they cannot endure the sun's light or that of a fire, on the other, they are able, in very dark rooms, to distinguish not only the outlines but also the colour of objects, where healthy people cannot distinguish anything at all.

The author's first series of recorded experiments refer to the appearance of light, visible only to the sensitive, at the poles and sides of powerful magnets. One of the persons experimented "saw a flame with play of colours, shooting out rays as large as the magnet, that is, about ten inches high; also side flames from each plate of the magnet, and a general weaker light over the whole surface at the junction of the plates." When the memoir was printed he had met with six sensitive persons who saw more or less vividly this luminous appearance; the number, last February, amounted to twenty-three, including not merely girls, but men and

matrons. To prove that this was real actual light, he shows that it acts on the sensitive plate of the daguerreotype, and is concentrated by a lens. It gave out no perceptible heat; at least none sufficient to affect Nobili's thermoscope.

The *magnetic flame* is to be distinguished from the *magnetic light*. The former is flickering and does not radiate; the latter radiates strongly. The flame yields like other flames when blown on, and when solid bodies are introduced into it. It would, therefore, appear that the light is distinct, imponderable; but that the flame is probably compound, consisting of a material substance along with the imponderable light. The author proceeds to enter into a long description of the aurora borealis, and of the very similar appearances described by the patients. Without regarding the identity as proved, there are very strong reasons for believing it probable.

He then proceeds to show that in certain diseases, especially catalepsy, an attraction subsists between the hand and a magnet.

"Mlle. N. being in catalepsy, insensible and motionless, but free from spasms, a horse-shoe magnet of 20 lb power was brought near to her head, when the hand attached itself so to the magnet, that whichever way the magnet was moved, the hand followed as if it had been a bit of iron adhering to it. She remained insensible, but the attraction was so powerful that when the magnet was removed in the direction of the feet, further than the arm could reach, she, still insensible, raised herself in bed, and with the hands followed the magnet as far as she possibly could, so that it looked as if she had been seized by the hand, and that member dragged towards the feet. This was daily seen by the author between six and eight, P. M., when her attacks came on, in the presence of eight or ten persons, medical and scientific men. At other periods of the day when she was quite conscious, the phenomena were the same. She described the sensation as an irresistible attraction, which she felt compelled against her will to obey. The sensation was agreeable, accompanied with a gentle cooling aura, streaming or flowing down from the magnet to the hand, which felt as if tied and drawn with a thousand fine threads to the magnet. She was not acquainted with any similar sensation in ordinary life." Similar results were obtained in other cases; in one case (the one quoted) a certain amount of attraction was also observed in the foot, but far weaker. It was found that the hand of the cataleptic patient had no attraction for iron filings, did not in the least affect the needle, and excited no appreciable attraction on a magnet, which was counterpoised on the beam of a balance, and brought near to the hand, although it required some force to prevent the hand from rising to the magnet. That is to say while the magnet attracted the hand, as it were vitally, the hand did not attract the magnet statically.

The author, although strongly prejudiced against the idea of magnetized water being recognizable, was yet compelled to admit what he saw daily in many patients, that they could easily distinguish a glass of water along which a magnet unknown to them, had been drawn, and this without failure or hesitation. A magnetized glass of water was found to possess the property of attracting the hand of Mlle. N.; this took place whether she was in a state of catalepsy or not.

All sorts of minerals, preparations, drugs, in short, objects of all kinds were then magnetized in the same way as the water, by drawing, or passing the magnet along them, and being tried, was found to act as the water had done, more or less powerfully. Some of these caused spasms over the whole body, others only in the arm, others again only in the hand, and lastly, others not at all. The same substances were then tried in their natural condition, without being previously magnetized. They were still found to act with a power often little inferior to that which they had when magnetized. It was observed that the effect in the cataleptic state was much more distinct and powerful than when the patient was in the normal condition. On comparing the bodies employed, it was found that all those bodies which were clasped convulsively in the hand (the active group) included all loose single crystals, and groups of crystals, with their chief axes parallel, as celestine, gypsum, red and brown hæmatite, &c. The active substances were also beautifully crystallized, and he divides them into three classes: *a*, such as caused the fingers to close on the body with hardly perceptible spasm; *b*, those which caused the hand to be closed with spasm, but did not attract it to follow; and *c*, those which caused the hand to contract with violent spasm, and attracted

it also when made to pass near it. For the list of substances employed we must refer to pp. 16, 17, of Dr. Gregory's Abstract.

The general result of these experiments is that distinct solitary crystals appear to possess a power of a peculiar nature, not previously noticed, and apparently dependent on the structure of matter, namely, on the arrangement of the particles. The author found that about one-half the persons in the neighbourhood were more or less sensitive to crystals. The crystals should be large, single, with natural acuminations; heavy spar, fluor spar, gypsum, and rock crystal are the best. They must be drawn as near the inner surface of the hand as possible, five seconds being taken to a streak, and held perpendicularly. The sensation is cool when the streak on the hand is made downwards, and warm and very disagreeable (so as even in some cases to cause spasm) when it is made upwards. The conclusions to be deduced from this section, and which, according to Reichenbach, may be regarded as established, are—

1. Every crystal, natural or artificial, exerts a special action on the animal nerves, feeble in healthy persons, powerful in many diseased individuals, strongest of all in cataleptic cases.

2. This influence is seated chiefly in the axis of the crystal, and being most active at the opposite ends of the axis, is consequently polarized.

3. At the poles, light is sent forth visible to eyes rendered preternaturally acute by disease, especially of the nervous system.

4. In certain disorders, the crystal attracts or solicits the hand of the patient by a kind of attraction, analogous to that of the magnet for iron. But this force is in many important points altogether distinct from magnetism.

5. The force may be transferred to other bodies which may be charged with it by contact. Different bodies conduct it with different degrees of facility.

6. The force differs qualitatively at the opposite poles; at the — M pole causing a sensation of coldness, at the + M pole, one of warmth. Quantitatively the — M pole (pointing in the magnet to the north) is weaker than the + M pole.

The author then proceeds to show that the system of sensitive persons is affected by terrestrial magnetism. He felt, *à priori*, assured that if a magnet or a crystal produces so decided an effect on the system, the magnetism of the earth, which gives the needle its direction, must likewise influence the animal nerve. Trials were then made on M.M. Schuh and Schmidt, surgeons, as well as on many other persons, in different circumstances and at different times. "M. Schuh had, in the house then inhabited by him, the singular custom when he awoke early in the morning of regularly turning himself in bed so as to place his head where the feet had been; on doing this he invariably fell asleep again, and this second sleep, contrary to the usual opinion, was to him far more refreshing than the whole sleep preceding it. If he omitted this, or lost his second sleep, he felt weary all day, and thus this strange custom had become a necessity for him. The author inquired and found that the head of the bed was directed to the south, the feet to the north. He advised the turning of the bed into exactly the opposite position, with the head towards the north, and from that time the necessity for the second sleep never returned, the ordinary sleep was refreshing and sound, and the custom above mentioned at once given up." Seven other much more marked cases are given; they all agreed that lying in any position except from north to south is highly disagreeable, but that from west to east almost intolerable. The cause of these phenomena can only be found in that great magnet which is formed by the earth with its atmosphere, that is, terrestrial magnetism. Reichenbach lays it down as a law, that "terrestrial magnetism exerts on certain persons, both healthy and otherwise, who are sensitive, a peculiar influence, powerful enough to disturb their rest, and in the case of diseased persons, disturbing the circulation, the nervous functions, and the equilibrium of the mental powers." Since terrestrial magnetism is subject to variations connected with the lunar phases, some light is partially thrown on one of the causes influencing insanity. The author likewise shows that his observations regarding the influence of terrestrial magnetism afford a clue to many of the discordant results of the animal magnetism. His next important conclusion is, that the peculiar force of magnets and crystals exists in the human hand, and is analogous to magnetism. When he caused his fingers of the right hand to follow each other in a line down the middle of the inside of the hand,

but not in contact with it, all those who were sensitive to the magnet felt either a cool or a warm aura; and that generally more distinctly than in the case of a crystal. Indeed many healthy persons were sensitive to this influence; amongst others, M. Schuh, M. Studer, and M. Kotschy, the African traveler, all healthy vigorous men, the latter a rare specimen of manly vigour and hardy constitution. We have only space for the general conclusions of this section, which are—

1. That the hand, passed over sensitive patients, acts on them like the poles of crystals.

2. That the power which here acts is conductible through all bodies like the force of crystals, and that it likewise resembles this force in its capability of being collected in other bodies, and in its disappearance from those bodies in a short time.

3. That this force is polarized in the human body, as the other is in crystals, and that both are alike uninfluenced by the earth's magnetism.

4. That this force exercises a mechanical attraction on the hands of cataleptics, as does the force of crystals.

5. That this force exhibits beautiful luminous phenomena, visible to the sensitive, of the same kind and strength as those exhibited by the force of crystals. The author promises to give drawings of these beautiful appearances with a future memoir. It is worthy of remark that Professor Gregory, two years ago, and consequently long before he had heard of Reichenbach's observations, often saw a lad who in the mesmeric state observed flames issuing from the point of his (the Professor's) fingers.

In section 4 are considered further sources of the new power; the sun's rays are shown by some beautiful experiments to yield it, and that moonlight, although it conveys no heat, possesses a powerful hidden influence similar to that which resides in crystals, magnets, the human hand, and the sun's rays. Heat, friction, and artificial light are other sources of it.

The most important points of section 5 are the following:

1. Chemical action as well the ordinary kind as that connected with combustion and the galvanic pile, is a comprehensive source of the magneto-crystalline force.

2. The most insignificant chemical action is sufficient to develop it abundantly, to charge surrounding objects with it, to exhibit polarity, to produce light, &c.

3. The magnetic baguet of Mesmer and his followers most probably developed this force in consequence of chemical action.

4. Digestion and respiration, and, in general, the change of matter in the animal body, being chemical processes, are the sources of the magnetic influence which exists and acts in the human frame.

5. The ghost-like luminous appearances that have been observed above graves, although unseen by most healthy persons, do really exist, are of a purely physico-chemical nature, but can only be seen by the highly sensitive.

6. Electricity is also a source of the power which resides in crystals, &c. This is true both of friction-electricity, positive and negative, and of contact-electricity, and even the electric atmosphere is capable of setting this force in motion at considerable distances.

In the remainder of the memoir he shows that all bodies in some degree contain the new force; that they cause heat and cold, and are luminous to the sensitive, but that the light is variously coloured; that the amount of the new force in the hand varies at different hours; and finally, in what manner the foregoing facts may be applied to the preservation of the health.

These supposed discoveries have excited vast interest in Europe, as is shown by the extent to which they have been quoted and reviewed in various journals. Some respectable reviewers have even thought them worthy of credit, and those even who were very justly skeptical, have at least thought them entitled to consideration and examination. Mr. Braid has repeated many of them, and the results of his experiments will be found in the succeeding article.

102. *The Power of the Mind over the Body: An Experimental Inquiry into the Nature and Cause of the Phenomena attributed by Baron Reichenbach and others to a "New Imponderable."* By JAMES BRAID, M. R. C. S. E., &c. &c. (Edinburgh Med. and Surg.

Journ., Oct. 1846.)—The preceding article contains an account of the wonderful, supposed, new discoveries of Baron Reichenbach, and in the present will be found the results obtained by Mr. Braid, on repeating the experiments of the former. This paper cannot fail to be read with deep interest. So curious and important does it seem to us, that we have not hesitated to give it nearly *in extenso*, and to appropriate to it far more space than is accorded to articles in this department of the Journal. It is one of the most valuable contributions to mental physiology and pathology that has for a long time been presented.

"On the first announcement," says Mr. Braid, "of Dr. Gregory's abstract of Baron Reichenbach's 'Researches on Magnetism,' I lost no time in procuring a copy, which I perused with intense interest. I had not proceeded far, however, when my experience with hypnotic patients enabled me to perceive a source of fallacy, of which the Baron must either have been ignorant, or which he had entirely overlooked. From whatever cause this oversight had arisen, I felt confident that, however carefully and perseveringly he had prosecuted his experiments, and however well calculated they had been for determining mere physical facts, still no reliance could be placed upon the accuracy of conclusions drawn from premises assumed as true, where especial care had not been taken to guard against the source of fallacy to which I refer, viz., the important influence of the mental part of the process, which is in active operation with patients during such experiments.* I therefore resolved to repeat his experiments, paying the strictest attention to this point; and, as I had anticipated, the results were quite opposed to the

* Let it not be supposed that I intend, by these observations, to impute to Baron Reichenbach any want of ordinary caution, or even the strictest desire to guard against sources of fallacy of every sort. From what is recorded at pp. 13, 50, and 81, of the "Abstract," it is obvious that he had taken great precautions, and such, indeed, as would have been quite adequate to effect such purpose under ordinary circumstances. Moreover, I most cordially admit that a better devised series of experiments, or a more laborious and painstaking effort, for determining the question on strictly inductive principles, I have never met with in any department of science. Nor is small praise due to Professor Gregory for the masterly manner in which he has performed his part of the task; still, when the extraordinary acuteness of the organs of special sense are taken into account, to which reference is made at p. 2 of the "Abstract," where it is admitted that "smell and taste become astonishingly delicate and acute;" vision so irritable that patients "are able, in very dark rooms, to distinguish not only the outlines, but also the colours of objects where healthy people cannot distinguish anything at all;" and that "patients hear and understand what is spoken three or four rooms off;" I say, when these facts are taken into consideration, coupled with the excitable state of their minds, it will readily be admitted, that with all the precautions resorted to by Baron Reichenbach, various ideas may have been conveyed to his secluded patients, through the ordinary channels, of which he had no suspicion. For example, slight sounds in conducting the experiments, may have been overheard by the patients, and indicated to them changes in the arrangements, of which the operator had no notion: tones of voice, in proposing questions, may have had an equally certain and unintended influence; and it is an undoubted fact that, with such subjects, the slightest change in the concomitants always suggests a change in the fundamental or previously existing idea. Such being the case, I can imagine no satisfactory mode of determining the subject with such patients as the Baron experimented with in the staircase, but having them placed beyond the range of hearing, even to their quickened ears. The conducting wires should be securely fixed by thumb-screws near their distal ends, so as to prevent any vibration taking place beyond, when changing arrangements; which should be performed with the least possible noise; and a single sound of a bell should be the only signal for an answer, unless the patient should wish voluntarily to express some intelligence as to impressions, which he ought to be at liberty to do at any time. I would also suggest that there ought to be no regular order in the experiments; and that changes should be made without sounding the bell; and occasionally, that the bell should be sounded repeatedly without any change having been made. On no account should the experiments be conducted where the patients can have ocular observation of the features or gestures of the investigators, even in apartments apparently dark. Such are the rigorous conditions I should consider requisite in the investigations of this subject, so as to guard against all obvious sources of fallacy.

conclusions of Baron Reichenbach. It is with considerable diffidence that I venture to publish an opinion opposed to such high authority; but I shall briefly state the grounds of my own belief, and leave it to others to repeat the experiments, and determine which opinion is nearer the truth. The observations which I have to submit may, moreover, prove suggestive to others, and enable them not only to avoid sources of fallacy with which I am familiar, but may also lead to the detection of many which may have escaped my own observation.

"The great aim of Baron Reichenbach's researches in this department of science has been to establish the existence of a new imponderable, and to determine its qualities and powers in reference to matter and other forces, vital and inanimate. It unfortunately happens, however, that the only test of this alleged new force (with one solitary exception, and that as I thought by no means a satisfactory one), is the human nerve; and not only so, but it is further admitted that its existence can only be demonstrated by certain impressions imparted to, or experienced by, a comparatively small number of highly sensitive and nervous subjects.* But it is an undoubted fact that with many individuals, and especially of the highly nervous, and imaginative, and abstractive classes, a strong direction of consciousness to any part of the body, especially if attended with the expectation or belief of something being about to happen, is quite-sufficient to change the physical action of the part, and to produce such impressions from this cause alone, as Baron Reichenbach attributes to his new force. Thus every variety of feeling may be excited from an internal or mental cause—such as heat or cold, pricking, creeping, tingling, spasmodic twitching of muscles, catalepsy, a feeling of attraction or repulsion, sights of every form or hue, odours, tastes, and sounds, in endless variety, and so on, according as accident or intention may have suggested. Moreover, the oftener such impressions have been excited, the more readily may they be reproduced, under similar circumstances, through the laws of association and habit. Such being the fact, it must consequently be obvious to every intelligent and unprejudiced person, that no implicit reliance can be placed on the human nerve, as a test of this new power in producing effects from external impressions or influences, when precisely the same phenomena may arise from an internal or mental influence, when no external agency whatever is in operation.

"In order to guard against this source of fallacy, therefore, I considered it would be the best mode to throw patients into the nervous sleep, (the term adopted by me in preference to mesmeric sleep, for reasons to be explained presently,) and then operate on such of them as I knew had no use of their eyes during the sleep (for some patients have), and to take accurate notice of the results when a magnet capable of lifting fourteen pounds was drawn over the hand and other parts of the body without contact, after the manner described as performed by Baron Reichenbach in his experiments.

"I experimented accordingly, and the results were, that in no instance was there the slightest effect manifested, unless when the magnet was brought so near as to enable the patient to feel the abstraction of heat (producing a sensation of cold), when a feeling of discomfort was manifested, with a disposition to move the hand, or head, or face, as the case might be, from the offending cause. This indication was precisely the same when the armature was attached, as when the magnet was open: and in both cases, if I suffered the magnet to touch the patient, instantly the part was hurriedly withdrawn, as I have always seen manifested during the primary stage of hypnotism, when the patients were touched with any cold object. Now, inasmuch as patients in this condition, generally, if not always, manifest their perceptions of external impressions by the most natural movements, unless the natural law has been subverted by some preconceived notion or suggested idea to the contrary: and as I have operated with similar results upon a considerable number of patients, we have thus satisfactory proof that there was no real attractive power, of a magnetic or other nature, tending to draw the

* Such, at least, appeared to be the conviction as set forth in the *Abstract*, I soon ascertained, however, that, as respects common sensation in particular, many of the phenomena could be readily demonstrated even in healthy persons,—but on principles admitting of a totally different explanation from that of Baron Reichenbach, as shall be presently illustrated and proved.

patient, or any of his members, so as to cause an adhesion between his body and the magnet, as between the latter and iron, as Baron Reichenbach had alleged. I conclude, therefore, that the phenomena of apparent attraction manifested in his cases were due entirely to a mental influence; and I shall presently prove that this is quite adequate to the production of such effects. * * *

"In prosecuting the inquiry, Baron Reichenbach considered he had not only proved the existence of this new force, which produced all the physical effects enumerated, with streams of light from the poles, and the power of attracting the human body, and adhering to it, as steel to the magnet—I say he alleged that he had established such a force, not only as residing in the magnet, in addition to the ordinary magnetic force, but moreover, that it was found equally active in crystals, where it existed quite pure and distinct from ordinary magnetism. He also now ascertained that his subjects could discover "that from the finger points of healthy men, fiery bundles of light streamed forth, exactly as from the poles of magnets and crystals visible to the sensitive. He alleges, moreover, that he had proved that where it was passive, it could be excited into activity by the sun's rays, by the moon's rays, by starlight, by heat, by chemical or mechanical action, and finally, that this luminous or phosphorescent appearance, and certain other peculiar properties, might be discovered by the highly sensitive in almost every place, and from nearly every object or form of matter, solid or fluid, animate or inanimate. Also, that it could be conducted through all other matter, and that all substances, not naturally actively charged with it, could be so temporarily, by proximity and contact of those which were actively charged.

"I have already stated the wonderful power of the human mind, when consciousness is strongly directed to any part of a sensitive person, in changing physical action, and leading the subject to attribute to an external cause what may have arisen entirely from an internal or mental cause. It has also been stated that, when I resorted to a mode of operating which rendered the subjects more highly sensitive to external influences, and at the same time was calculated to obviate any source of fallacy, as to mental emotion or expectation being directed to the part from their seeing what was being done, the results were in direct opposition to what was represented as having been realized by the Baron. I have particularly adverted to this in respect to the alleged attraction of the magnet for the human frame; I have proved it to be equally so in respect to the human hand, and crystals, &c., where all sources of fallacy are guarded against. In my experience, moreover, with such cases, no light or flames have been perceived by patients either from the poles of a magnet, crystals, the points of the fingers, or other substance, unless the patients have been previously penetrated with some idea of the sort, or have been plied with such questions as were calculated to excite motions, when various answers were given accordingly, and when in the sleep, there appeared an equal aptitude to see something when neither magnet nor fingers were in the direction indicated, as when they were—a clear proof that the impressions were entirely imaginary, or mental in their origin.

"I shall now proceed to detail the results of experiments with patients when wide awake, and when they had an opportunity of seeing what was being done, and expected something to happen; and also when the same patients saw nothing of what was doing, but supposed I was operating, and consequently expected something to occur.

"With nearly all the patients I have tried, many of whom had never been hypnotized* or mesmerised, when drawing the magnet or other object slowly

* "*Hypnotized* is the term adopted by me to designate the state of *nervous sleep* induced by my usual processes. I commenced my experimental investigation of mesmerism as a decided skeptic; but when I had fully satisfied myself of the reality and peculiarity of the condition,—that they did not depend upon the transmission from the operator to the patient of any magnetic or special influence, as alleged by the mesmerists,—that the power was capable of being turned to important purposes in the relief and cure of disease; and when I had, moreover, ascertained that the phenomena producible by my processes did not include the *higher* phenomena, as they are called, of the mesmerists, such as clairvoyance, seeing through opaque bodies, mesmeric intuition, transposition of the senses, &c. &c., I deemed it prudent to adopt

from the wrist to the points of the fingers, various effects were realized, such as a change of temperature, tingling, creeping, pricking, spasmodic twitching, catalepsy of the fingers, or arm, or both; and reversing the motion was generally followed by a change of symptoms, from the altered current of ideas thereby suggested. Moreover, if any idea of what might be expected existed in the mind previously, or was suggested orally, during the process, it was generally very speedily realized. The above patients being now requested to look aside, or a screen having been interposed, so as to prevent their seeing what was being done, and they were requested to describe their sensations during the repetition of the processes, similar phenomena were stated to be realized, even when there was nothing whatever done, beyond watching them, and noting their responses. They believed the processes were being repeated, and had their minds directed to the part, and thus the physical action was excited, so as actually to lead them to believe and describe their feelings as arising from external impressions.

"The above fact was most remarkably evinced in a young gentleman, twenty-one years of age. I first operated in this manner on his right hand, by drawing a powerful horse-shoe magnet over the hand, without contact, whilst the armature was attached. He immediately observed a sensation of cold follow the course of the magnet. I reversed the passes, and he felt it less cold, but he felt no attraction between his hand and the magnet. I then removed the cross-bar, and tried the effect with both poles alternately, but still there was no change in the effect, and decidedly no proof of attraction between his hand and the magnet. In the afternoon of the same day I desired him to look aside and hold his hat between his eyes and his hand, and observe the effects when I operated on him, whilst he could not see my proceedings. He very soon described a recurrence of the same sort of sensations as those he felt in the morning, but they speedily became more intense and extended up the arm, producing rigidity of the member. In the course of two minutes this feeling attacked the other arm, and to some extent the whole body, and he was, moreover, seized with a fit of involuntary laughter, like that of hysteria, which continued for several minutes—in fact, until I put an end to the experiment. His first remark was, 'Now this experiment clearly proves that there must be some intimate connection, between mineral magnetism and mesmerism, for I was most strangely affected, and could not possibly resist laughing during the extraordinary sensations with which my whole body was seized, as you drew the magnet over my hand and arm.' I replied that I drew a very different conclusion from the experiments, as I had never used the magnet at all, nor held it, nor anything else, near to him: and that the whole proved the truth of

such conventional terms as might enable me to express my own views and convictions to the profession and the public, without being confounded with those who believed in, and contended for, all the extreme views of the mesmerists. I hoped thus to insure for the *ordinary and practically useful phenomena, a patient investigation*, which had been refused to those who contended for extreme views, respecting phenomena of rare occurrence and doubtful character. I therefore adopted the conventional term "Neuro-Hypnotism," or, for the sake of brevity, simply "Hypnotism, or Nervous Sleep," to designate a peculiar condition of the nervous system, into which it can be thrown by artificial contrivance, different in several respects from common sleep, or the ordinary waking condition. Strictly speaking, it comprises not *one state*, but a *series of stages*, varying in every conceivable degree, from mere reverie to profound nervous coma, with entire abolition of consciousness, and voluntary power on the one hand, to an almost incredible exaltation of function of the organs of special sense, and of intellectual and voluntary power, on the other. The phenomena are partly mental and partly physical,—voluntary, involuntary, or mixed, according to the stage of the sleep. There is also as great difference in the susceptibility to the hypnotic impression, as there are differences in the mental and physical constitution of the nature of the patients submitted to the processes. Some become rapidly and intensely affected, others slowly and feebly so. Such being the facts of the case, it must be obvious that no one can be at all qualified for testing such patients, who is not quite familiar with these peculiarities. He will, otherwise, be continually liable to suspect that he detects discrepancies, which arise entirely out of his own imperfect knowledge of the subject, leading him to mistake the phenomena of one stage for those which belong to another.

my position as to the extraordinary power of the mind over the body, and how mental impressions could change physical action.

"I operated on two other gentlemen the same day, who were much older, and with decidedly marked effects in both, though less so than in the last case. The experiment being tried with a lady of fifty-six years of age, by drawing a gold pencil-case slowly from the wrist to the finger ends, a creeping, twitching sensation was felt, which increased until it became very unpleasant, and excited a drawing, crampy feeling in the fingers of that hand. On causing her to look aside, watch, and describe her feelings during my subsequent operations, the results were similar, and that whilst I had done nothing; and the whole, therefore, was attributable to the power of the mind in changing the physical action.

"Another interesting case of a married lady, was tested in presence of her husband, as follows. I requested her to place her hand on the table, with the palm upwards, so situated as to enable her to observe the process I was about to resort to. I had previously remarked, that by my drawing something slowly over the hand, without contact, whilst the patient concentrated her attention on the process, that she would experience some peculiar sensations in consequence. I took a pair of her scissors, and drew the bowl of the handle slowly from the wrist downwards. I had only done so a few times, when she felt a creeping, chilly sensation, which was immediately followed by a spasmodic twitching of the muscles, so as to toss the hand from the table, as the members of a prepared frog are agitated when galvanized. I next desired her to place her other hand on the table, in like manner, but placed so, that by turning her head in the opposite direction, she might not see what was being done, and to watch her sensations in that hand, and tell us the result. In about the same length of time, similar phenomena were manifested, as with the other hand, although in this instance I had done nothing whatever, and was not near her hand. I now desired her to watch what happened to her hand, when I predicted that she would feel it become cold, and the result was as predicted, and vice versa, predicting that she would feel it become intensely hot, such was realized. When I desired her to think of the tip of her nose, the predicted result, either of heat or cold, was speedily realized in that part.

"Another lady, twenty-eight years of age, being operated on in the same manner, whilst looking at my proceedings, in the course of half a minute, described the sensation as that of the blood rushing into the fingers; and when the motion of my pencil-case was from below, upwards, the sensation was that of the current of blood being reversed, but less rapid in its motion. On re-suming the downward direction, the original feeling recurred, still more powerfully than at first. This lady being requested now to look aside, whilst I operated, realized similar sensations, and that whilst I was doing nothing.

"The husband of this lady, twenty-eight and a half years of age, came into the room, shortly after the above experiment was finished. She was very desirous of my trying the effect upon him, as he was in perfect health. I requested him to extend his right arm laterally, and let it rest on a chair with the palm upwards, to turn his head in the opposite direction, so that he might not see what I was doing, and to concentrate his attention on the feelings which might arise during my process. In about half a minute he felt an aura like a breath of air passing along the hand; in a little after, a slight pricking, and presently a feeling passed along the arm, as far as the elbow, which he described as similar to that of being slightly electrified. All this occurred while I had been doing nothing, beyond watching what might be realized. I then desired him to tell me what he felt now,—speaking in such a tone of voice as was calculated to lead him to believe I was operating in some different manner. The result was that the former sensations ceased; but, when I requested him once more to tell me what he felt now, the former sensations recurred. I then whispered to his wife, but in a tone sufficiently loud to be overheard by him, observe now, and you will find his fingers begin to draw, and his hand will become clenched,—see how the little finger begins to move, and such was the case; see the next one also going in like manner, and such effects followed; and finally, the entire hand closed firmly, with a very unpleasant drawing motion of the whole flexor muscles of the forearm. I did nothing whatever to this patient until the fingers were nearly closed, when I touched the palm

of his hand with the point of my finger, which caused it to close more rapidly and firmly. After it had remained so for a short time, I blew upon the hand, which dissipated the previously existing mental impression, and instantly the hand became relaxed. The high respectability and intelligence of this gentleman rendered his testimony very valuable; and especially so, as he was not only wide awake, but had never been either mesmerized, hypnotized, or so tested before.

"Another gentleman, twenty-one years of age, was tried by drawing a gold pencil-case along the palm of the hand, without contact. At the fourth traction, he looking at the part and my process, he described a cold aura following the course of the pencil, then a pricking, and after a few more courses, he described it as rather a warm pricking sensation; such as that experienced from the sun's rays concentrated on the skin by a lens. By reversing the passes, from the points of the fingers towards the wrist, the aura was changed, and he described the sensation as that of forcing back the blood in the veins, when they are much distended. I then proposed to experiment on his other hand, whilst his head was held aside, when similar sensations were realized, although on this occasion I had done nothing,—the whole results having arisen from his own concentration of consciousness, changing the physical action of the part, and recalling his former association of ideas in reference to the other hand. I thereupon explained to him the law (for he was a very acute young gentleman), which seemed to obtain in the production of such phenomena, and desired him to satisfy himself of the fact, by concentrating his attention on the upper part of his foot, and watching the result. Here, also, he experienced similar sensations to arise, even whilst he was aware that I was doing nothing; but the effects took place less rapidly than was the case in the former experiments with his hands. It is also worthy of remark, that this gentleman experienced very severe headache to result from these experiments, which, however, I was enabled very speedily to remove by another process.

"A lady, thirty years of age, was requested to hold out her right hand over the arm of an easy chair, whilst she turned her head to the left, to prevent her from seeing what I was doing, and to watch and describe to me the feelings she experienced in the hand during my process, which was to be performed without contact. She very soon felt a pricking in the point of the third finger, which increased in intensity, and at length extended up the arm. I then asked her how her thumb felt, and presently the same feeling was transferred to it; and when asked to attend to the middle of the forearm, in like manner the feeling was presently perceived there. All the time I had been doing nothing; the whole was the result of her own mind acting on her hand and arm. I now took the large magnet, and allowed her to watch me drawing it slowly over the hand, when the feeling was much as before, only that she felt the cold from the steel when brought very near to the skin. It was precisely the same when closed as when opened, and the same sensations occurred when the north pole alone was approximated, or the south alone, or both together. She experienced no sense of attraction between her hand and the magnet from either pole, nor from both combined. I now requested this lady to keep a steady gaze upon the poles of the large horse-shoe magnet, and tell me if she saw anything, (the room was not darkened nor was the light strong,) but nothing was visible. I then told her to look steadily, and she would see flame or fire come out of the poles. In a little after this announcement she started, and said, 'Now I see it, it is red: how strange my eyes feel;' and instantly she passed into the hypnotic state. This lady had been repeatedly hypnotized. I now took the opportunity of testing her as to the alleged power of the magnet to attract her hand when asleep, but, as in the other cases, the results were quite the contrary—the cold of the magnet (and of either pole alike) caused her to withdraw her hand the moment it touched her. I now requested her to tell me what she saw (she being still in the sleep). She said she still saw the red light. I desired her to put her finger to the place where she saw it. This she declined to do, being afraid that it would burn her. I thereupon assured her that it would not burn her, upon which she pointed to the same place where the magnet was held before she went into the sleep, instead of to where it was now held, which was near to her face, but towards the opposite side of the chair. This lady does not see from under her partially closed eyelids when hypnotized, as some

patients do; and the evidence her testimony affords in support of my opinion upon this subject, is very conclusive, as she is a lady of very superior mental attainments, and one whose testimony merits unlimited confidence.

"I beg to call particular attention to the fact, that in this latter case, as with the fifth of the vigilant cases narrated, the first experiments were tried without any magnet or other object being pointed at or drawn over them, and still the mental influence was quite sufficient to change the physical action and produce decided and characteristic effects, where there could be no influence from without, of the nature alleged by Baron Reichenbach and the mesmerists.

"A lady, upwards of fifty-six years of age, in perfect health, and wide awake, having been taken into a dark closet, and desired to look at the poles of the powerful horseshoe magnet of nine elements, and describe what she saw, declared, after looking a considerable time, that she saw nothing. However, after I told her to look attentively, and she would see fire come out of it, she speedily saw sparks, and presently it seemed to her to burst forth, as she had witnessed an artificial representation of the volcano of Mount Vesuvius at some public gardens. Without her knowledge, I closed down the lid of the trunk which contained the magnet, but still the same appearances were described as visible. By putting leading questions, and asking her to describe what she saw from another part of the closet, (where there was nothing but bare walls,) she went on describing various shades of most brilliant coruscations and flame, according to the leading questions I had put for the purpose of changing the fundamental ideas. On repeating the experiments, similar results were repeatedly realized by this patient. On taking this lady into the said closet after the magnet had been removed to another part of the house, she still perceived the same visible appearances of light and flame when there was nothing but the bare walls to produce them: and, two weeks after the magnet was removed, when she went into the closet by herself, the mere association of ideas was sufficient to cause her to realize a visible representation of the same light and flames. Indeed such had been the case with her on entering the closet ever since the first few times she saw the light and flames. In like manner, when she was made to touch the poles of the magnet when wide awake, no manifestations of attraction took place between her hand and the magnet, but the moment the idea was suggested that she would be held fast by its powerful attraction, so that she would be utterly unable to separate her hands from it, such result was realized; and, on separating it, by the suggestion of a new idea, and causing her to touch the other pole in like manner, predicting that it would exert no attractive power for the fingers or hand, such negative effects were at once manifested. I know this lady was incapable of trying to deceive myself, or others present; but she was self-deceived and spell-bound by the predominance of a preconceived idea, and was not less surprised at the varying powers of the instrument than others who witnessed the results.

"Similar phenomena were manifested by this patient when she was requested to place a finger or hand in contact with a table, or any other inanimate object;—the results being either negative, or irresistibly attractive, or repulsive, according to the ideas suggested; and that without any passes or manipulations on any part. Moreover, these results occurred whilst I was willing the very opposite effects might arise from those she had heard me predict. The results always corresponded with the mental impression or belief of the patient, and might have been just as readily suggested by a pass or silent signal, to which she had attached a particular idea, as by vocal enunciation.

"In like manner several other patients whom I took into the dark closet, could see nothing, until told to look steadily at a certain point and they would see flame, and light of varying colours, proceeding from it, which predictions were speedily realized, whilst they were wide awake, and with nothing but bare walls towards which to direct their eyes. Not only so, but I have, moreover, ascertained, that, even in broad day-light, a strong mental impression is adequate to produce such delusions with certain individuals of a highly imaginative and concentrative turn of mind. This fact was beautifully illustrated in the case of a gentleman, twenty-four years of age, (who had suffered severely from epilepsy, for eleven years, notwithstanding the persevering use of medicine of various sorts, prescribed by many of the most able members of the profession, but who is recovering very

satisfactorily under the hypnotic treatment,) when taken into the above closet and tested as the latter. He likewise saw nothing till I suggested that he would see flame and light, after which prediction he very speedily saw them accordingly, not merely where the magnet was, but also from other parts of the apartment. Now, this patient, and the last two referred to, when taken into the closet after the magnet had been a long time removed to a distant part of the house, still saw the flames, and changing colours as before—a clear proof that the whole was a mental delusion arising from an excited imagination, on the point under consideration, changing physical action. The same gentleman being made to look at the point of a piece of brass wire, could be made to imagine that he saw any sort of flame or colour indicated issuing from it, even in broad day-light; and when made to touch it with a finger, and then told he would find it impossible to draw it away, the mere idea was sufficient to paralyze his volition, the whole muscles became rigid, and he looked with astonishment at his condition; but the moment I said now the attraction is gone, and his hand will separate, such results followed. Moreover, now that his finger was a little withdrawn, by simply saying confidently that it would now be found that he could not touch the wire, as it would repel him, the idea once more paralyzed his volition, and he again manifested his incapacity, and in spite of his anxious, but misdirected efforts, there he remained fixed as a statue. On hinting that now the influence was suspended, the hand and arm became limber, when I told another person watching the experiment that now he would find the hand irresistibly drawn to the wire; and such result was presently manifested. No one had touched this wire for hours; it was merely a piece of bent brass wire which was lying loosely and projecting from the chimney-piece. This power seems to have been understood by Virgil, when he said—

‘*Possunt, quia posse videntur.*’

“In like manner, having intimated to a friend the remarkable vividness of this patient’s imagination, implicit belief and credulity, which rendered him liable to believe that he had an ocular perception of an external change, according to whatever idea might be suggested to him by others, I requested this friend, when we went into the room, to look at the end of the above wire at the same time with the patient, and that the former should pretend to me, when asked what coloured flame she saw emanating from it, to give a new idea at each inquiry. By this mode the patient caught the ideas suggested, having no notion that he was deluded in the way indicated. He left with the full conviction of the physical reality of all he had seen and described; and he has manifested like phenomena as frequently as he has been so tested.

“I have detailed the above case so much at length, because it is a very good type of a class of patients to be met with, who readily become the dupes of suggestions, in the manner presently to be explained, without the least desire to deceive others, or the most distant idea that they are themselves deceived. I have proved all I have advanced by so many concurrent examples, with individuals of the utmost probity and competency to describe their feelings, that there can be no doubt of the facts.

“But not only may patients, in the waking state, be made to believe that they see various forms and colours, and perceive variable sensible impressions and irresistible powers, drawing, repelling, or paralyzing them, from a strong mental impression changing the physical action of the organ or part usually engaged in the normal manifestation of such function; but I have, moreover, ascertained that the same influence may be realized in respect to sound, smell, taste, heat, and cold,—so that suggested ideas and concentration of consciousness are competent, with some individuals, to excite ideas, not merely of hearing vague sounds, but particular tunes, the smell of particular odours, and to discriminate particular tastes, and feel heat or cold. All this I have proved may be realized with some excitable subjects when they were wide awake; and when there was neither actual sound, nor odour, nor taste, in the situations and substances to which they were referred; and by merely asking what tune, what colour, what animal, or what substance, they perceived now, I clearly proved that ideas were thus excited in the minds of subjects, totally different from those existing in my own at the time. The subjects with whom I made these experiments were worthy of im-

PLICIT credit as to their integrity in describing their feelings and belief; and the whole results, therefore, are attributable to the remarkable reciprocal actions of the mind and body on each other, to which I have so often referred. Indeed, one of the most beautiful examples I have had of these 'vigilant phenomena,' in respect to all the senses, occurred in the case of a gentleman of high classical and mathematical attainments, as well as in general science. He had seen no experiments of the sort before I tested himself.* On finishing my round of experiments with him, he begged of me to explain the rationale of what had occurred. I requested him to read what I had written on the subject, which he perused with great attention; after which he expressed himself perfectly satisfied that I had hit upon the true solution of the problem. Indeed, he was so kind as to authorize me to refer any one to him for a confirmation of the rationale I had given of the phenomena, as experienced by him in his own person when wide awake, and in the bright light of day.

"It is stated by Baron Reichenbach that the sensitive can uniformly detect water which has had the magnetic current passed through it, by having an open magnet brought over and in contact with the opposite sides of the glass in which the water is contained. I have tried this experiment in such a manner as was calculated to guard against various sources of fallacy which I knew were likely to mislead the unwary; such as the varied tone of voice or look of the experimentalist, when investigating the subject, and trying to elicit from the patient his candid opinion as to the qualities of each glass of water. The results were, that none of the patients tried could detect, either by smell, taste, or any other sensible effect, any difference between the magnetized and the unmagnetized water. At each trial I made use of four similar glasses, filled to the same height, two of which, by the contact to the glass of a powerful magnet for a minute or two, were magnetized, the other two not magnetized. The patients were all first tested in this way when awake, and then when asleep. Magnetizing by passes, or breathing on the water, I should not consider a fair experiment, and for this reason, that the halitus of the breath, or from the skin, might very readily be detected by a highly sensitive patient, by smell, and probably also by taste. I have met with a patient who

* When testing this gentleman, by requesting him to listen attentively and tell me what tune he heard from an object held near to, but not in close contact with his ear (it was merely a pencil-case), he named a well-known *cheerful* tune. Without saying a single word, I applied the finger and thumb of my other hand so as slightly to corrugate the integuments of the forehead, when he instantly said, "the tune is changed; it is Roslin Castle now." On my separating the fingers and thumb, so as to expand the integuments, he answered, that the music was lively again. These changes took place from the grave to the gay, and *vice versa*, as often as I made the corresponding changes on the integuments. If I named any particular tune which he would hear, without touching him, he immediately thought he heard the tune I had named.

In like manner, having asked him to tell me what *smell* he felt when the pencil-case was held to the nose, (it was a gold pencil-case, and therefore could have had neither smell nor taste,) he named an odour, but the moment I corrugated the integuments of the forehead, as before named, it changed for something disagreeable, and *vice versa* as often as such changes in the "Anatomy of Expression" were made. Similar delusions took place, likewise, in respect to taste, when he was requested to tell me what *taste* the pencil-case had under different circumstances, being agreeable with the expanded and elevated state of the integuments, and the reverse when they were contracted or depressed. Visual spectra, in like manner, could be rendered agreeable or disagreeable, bright or sombre, according to similar changes in the physical frame. The philosophical explanation of all this I have entered into pretty fully in my forthcoming treatise on hypnotism or nervous sleep; and it is on these principles that I have endeavoured to account, in a very simple and natural manner, for the excitation of the phenomena of mesmero-phrenology as they have been called, by touching certain parts of the scalp during mesmeric sleep, where all sources of fallacy are guarded against from auricular suggestion or previous knowledge of phrenology. According to my apprehension, exciting these phenomena in such manner, many of which are extremely interesting and beautiful, neither proves nor disproves the doctrines of phrenology, but just leaves that subject where we found it.

could very readily detect water so treated from that which had not, and I ascertained that she did so by smell.

"The extreme acuteness of the organs of special sense, under certain circumstances, is well illustrated in certain states of disease, and by what is realized in the feats of some savage tribes. They appear quite as exalted as anything I have met with, in the hypnotic or mesmeric state; and which has been sufficient to enable me to account, on natural principles, for what others have attributed to some new faculty or sense developed by their processes, and distinct from the ordinary organs of sense.

"However, I have never met with any case of accurate thought-reading, where the patients could generally and accurately interpret my unexpressed thoughts and desires regarding him, without some sensible sign to indicate my ideas to him; but, as already stated, I feel confident that there are many, who, from their excited and concentrated state of mind, and quickened senses, will catch ideas far more quickly than in the ordinary condition, who may be thus imposed upon, and excited to act by means of impressions received through the senses, which would entirely escape them in the ordinary condition.

"In consequence of the statement made in the third section, of the tranquilizing effect of causing highly sensitive patients to lie with the head towards the north, and the extreme discomfort of other directions of the body, in reference to the magnetic meridian, I caused a patient who had been long an extreme sufferer, and in whose welfare I felt the deepest interest, to submit to the trouble of such a change in the position of her bed, but, I am sorry to say, it was followed by no beneficial effect.

"That some of Baron Reichenbach's patients should have manifested the power of seeing luminous emanations in the dark, over the graves of the dead, more especially of those recently buried, I think admits of a more probable explanation than that propounded by the Baron. We know that during certain stages of decay of vegetable and animal matter, a phosphorescent appearance is manifested in the dark to ordinary vision, and, of course, it must be still more so to the highly sensitive. But there is another result of such organic decay still more powerfully felt by all, namely, its disagreeable odour. Few can escape the recognition of this, even in the bright light of day. Again: we are so much in the habit of associating visible or tangible forms with impressions which are conveyed to our minds through any of the organs of sense, that the blind are in the habit of expressing themselves as seeing such and such persons, whom they recognize approaching, merely by the sound of their voices, or tread of their steps and so on.

"In like manner a smell of any sort suggests corresponding ideas; and I have found hypnotic patients who recognized individuals of their acquaintance quite readily by smell; who always said, when asked how they knew who was present, "I see him or her," and, when the nostrils were stopped, thought the party had gone away. The sympathy which exists between the eyes and the nose is well proved by a strong light producing sneezing; and the converse of this is very natural, that a strong impression on the olfactory nerves might excite in the mind of a highly sensitive and imaginative person the idea of some visible appearance. This will account for the ghost-story quite as readily as the theory of the Baron, and will be found more generally available, as few people are so constituted as to be able to pass through such places without being painfully reminded, through their olfactory organs, that they are treading on the mortal remains of friends departed.

"But I may be met with the objection to my arguments by an appeal which has been made to the Daguerreotype, (a purely physical fact,)—which could not be influenced by mind,—for an experiment has been recorded by Baron Reichenbach, where, by the mere exposure of a sensitive plate in a box with a magnet, all light being excluded, an impression had been made, as if it had been exposed to the full influence of light, which did not happen, when another plate was so confined without the magnet. It appeared to me that such an important deduction ought not to have been arrived at, from one or two experiments of such a ticklish nature; and more especially so, when the iodized plates were so long kept before being exposed to the mercurial vapour; for it was natural to expect some chemical change might take place with them irrespective of light. I have repeated these

experiments with nine plates, prepared at different times with the greatest care by Mr. Akers, the patentee of the Manchester photographic gallery, (one of the most correct professors of his art,) and the experiments varied so as to guard against error, by mutual correction. The experiments have been tried by close and free exposure of three plates to the poles of a powerful horse-shoe magnet, (originally of 80 lbs. lifting power, but somewhat reduced from use,) and of other three similarly situated, only with two sheets of black paper interposed so as to intercept the rays of light, if any were emitted from the magnetic poles, and another was enclosed in a box at a distance from the magnet, and all kept from 66 to 74 hours; but in no instance was there any appearance of them having been acted on by light,—the only change being such chemical changes as generally arise from keeping prepared plates for some time before being exposed to mercury. The latter process was also performed by Mr. Akers for the purpose of insuring greater accuracy from his daily practice of the art. Two other plates were enclosed in a camera and exposed at such a distance as must have given a picture of the poles of the magnet, and flames issuing from them—for the camera was adjusted to $4\frac{1}{2}$ times the distance of ordinary light, and one left 66 the other $35\frac{1}{2}$ hours—but no such indications manifested themselves. I think, therefore, that I am warranted in concluding that no light, capable of affecting an iodized plate, is given out at the poles of magnets, as alleged from the experiments referred to by Baron Reichenbach.*

“Having thus far investigated Baron Reichenbach’s speculations, and proved the major propositions to be erroneous, as respects proving the phenomena he refers to as resulting from “a new imponderable,” I consider it unnecessary to prosecute the subject in the minor details. I may, however, remark, that I can readily imagine, from the exalted sensibility of particular individuals, and their highly concentrative state of mind, that they may be competent to detect electric, calorific, and physical qualities of objects, which would escape the observations of themselves and others, when in the ordinary and less sensitive condition. And, again, whilst I deny that we have any satisfactory proof of this new imponderable, passing from the operator to the patient, as alleged, during the processes of the mesmerists, still I readily admit that the operator, for the reasons already assigned, of mental impression changing physical action, is very likely to feel an aura in his finger ends, the position, action, and mental direction, all tending to excite in them turgescence and increased sensibility. I can also easily conceive, that the passes, through their physical, electrical, and other effects, tending to draw the patient’s attention to particular parts, thus exciting their functions, and withdrawing it from others, thereby depressing their functions, and especially if the patient expects such results to ensue from such processes, are very likely to be followed by such results, irrespective of any special influence being transmitted from the operator to the patient, of the nature alleged by Baron Reichenbach and others.

“The mesmerists, who have entertained the notion that the sleep and other phenomena occurring during their processes arose from a magnetic fluid, or some special influence issuing from their persons, and passing into that of the patient, of course hail these speculations of Baron Reichenbach as demonstrative proof of the correctness of their theory of mesmerism. Some of their patients having declared that they saw blue or variegated sparks passing from the fingers of the operator, when making passes in mesmerizing a patient, water, or other inanimate object; or that they saw a blue fluid, or one of still brighter hue, issuing from the eyes of the operator and darting towards them, when gazing fixedly for the purpose of mesmerizing; or that they perceived a luminous halo surrounding the head of a person engaged in deep thought, must have felt gratified by the announcement, considering it well calculated to confirm in their minds the notion of the physical entity of the agent. But, when those patients have further described that when the operator has been engaged in silently willing, for example, that a patient should be made to come towards him, there is seen by the patient, a stream of something passing from the head of the operator to that of the patient, like a rope, and that he not only sees this, but feels its influence as a rope, or innume-

* Mr. Dancer, the optician, kindly lent me apparatus, and saw and approved of my arrangements, as well adapted for the purpose.

nable threads drawing him irresistibly towards the operator, the entity must now appear fully confirmed. But again, when some of these subjects become, at length, so accomplished and susceptible as to be able to perceive these visible appearances in the wide waking state, it cannot be wondered at that those whose long-cherished opinions lay in that direction, should jump to the conclusion that now the point is fully and satisfactorily settled. Under such a combination of circumstances, individuals may be excused for overlooking what to others is a very obvious source of fallacy,—viz., the tendency of a continued fixed gaze to confuse the vision, and of a fixed idea and expectation to confuse and bewilder the mind.

"It is well known that the undue excitement of an organ disturbs the normal functions of such organ: and that in a state of fever, delirium tremens, and various morbid states of the nervous system, and even in the healthy state during dreaming, the patient imagines that he feels, and sees, or hears all sorts of forms, colours, sounds, &c. We do not, on that account, subscribe our belief in the reality of the objects, or peculiar attributes he has seen, heard, or felt, or the imaginary feats he has accomplished. In this case we estimate the phenomena as mental and morbid delusions; and such I apprehend ought to be our conclusion in reference to these extraordinary and startling allegations.

"Inasmuch as patients can throw themselves into the nervous sleep, and manifest all the usual phenomena of mesmerism, through their own unaided efforts, as I have so repeatedly proved by causing them to maintain a steady fixed gaze at any point, concentrating their whole mental energies on the idea of the object looked at; or that the same may arise by the patient looking at the point of his own finger, or as the Magi of Persia and Jogi of India have practiced for the last 2400 years, for religious purposes, throwing themselves into their ecstatic trances by each maintaining a steady fixed gaze at the tip of his own nose; it is obvious that there is no need for an exoteric influence to produce the phenomena of mesmerism. The agency may be entirely personal or subjective, and in such cases as I have illustrated by extracts from Ward's History of the Hindoos and the Dabistan, through certain associations of ideas, such self-mesmerized patients can see and imagine as great, or indeed far greater wonders than are recounted by our most successful mesmerists of modern times, with the additional aid of their alleged mesmeric fluid. In proof of this I beg to refer to my paper in the Medical Times, page 272, vol. xi. The great object in all these processes, is to induce a habit of abstraction or concentration of attention, in which the subject is entirely absorbed with one idea, or train of ideas, whilst he is unconscious of, or indifferently conscious to, every other object, purpose, or action.*

"I had long been familiar with the fact, that during a certain stage of hypnotism,

* From careful observation, I feel convinced that the principal differences between nervous and common sleep, consist in the state or condition of the mind, and the physical effects which flow therefrom. In proof of this and the proposition above referred to, I beg to refer to the fact that I never yet succeeded in hypnotizing an idiot; for the very obvious reason that there was not a sufficient amount of intelligence to enable me to fix their attention. However, I have frequently succeeded in inducing the sleep in ordinary cases of insanity, and monomania, and in several instances with decided advantage. In some by restoring refreshing sleep which had been long absent, in others by exciting in their minds during the sleep, antagonist ideas to those which constituted their chief delusion. Fixing the attention through visual sensation as specially indicated in my little treatise on Hypnotism, is the most rapid and certain mode of inducing the state of nervous sleep, but the patient may be affected, as the blind are, by closing the eyes and keeping his mind fixed on some imaginary object or idea. After the impressibility has been stamped on subjects which are naturally highly susceptible, they become liable to be affected entirely through mental impression, belief, and habit,—that is to say, they will become affected from any visible process which they believe intended and capable of producing the effect, or even where no process whatever is in operation, if they only imagine something is being done at a distance to throw them into the sleep, they will become affected through the mere force of this mental impression and belief. This seems to be a grand source of fallacy with many who allege that they can affect patients at a distance, through mere volition or secret passes, occasional coincidences being exalted by them into a positive law.

patients may be made to give various manifestations, or declarations of their feelings and emotions, according to previously existing ideas, or suggestions imparted to them during the sleep; and, moreover, that such associations once formed, were liable to recur ever after, under a similar combination of circumstances. As occurs in ordinary dreaming, they seem generally at once to adopt the idea as a reality, without taking the trouble of reasoning on the subject as to the probability of such ideas being only imaginary; and their extreme mobility at a certain stage of the hypnotic state, renders them prompt with their corresponding physical response. In proof of this, and how readily those inattentive to these facts may misapprehend what they see realized in such cases, I beg to submit the following interesting illustration. When in London lately, I had the pleasure of calling upon an eminent and excellent physician, who is in the habit of using mesmerism in his practice, in suitable cases, just as he uses any other remedy. He spoke of the extraordinary effects which he had experienced from the use of magnets applied during the mesmeric state, and kindly offered to illustrate the fact on a patient who had been asleep all the time I was in the room, and in that stage, during which I felt assured she could overhear every word of our conversation. He told me, that when he put the magnet into her hands, it would produce catalepsy of the hands and arms, and such was the result. He wafted the hands and the catalepsy ceased. He said that a mere touch of the magnet on a limb would stiffen it, and such he proved to be the fact.

"I now told him, that I had got a little instrument in my pocket, which, although far less than his, I felt assured would prove quite as powerful, and I offered to prove this by operating on the same patient, whom I had never seen before, and who was in the mesmeric state when I entered the room. My instrument was about three inches long, the thickness of a quill, with a ring attached to the end of it. I told him that when put into her hands, he would find it catalepsy both hands and arms as his had done, and such was the result. Having reduced this by wafting, I took my instrument from her, and again returned it, in another position, and told him it would now have the very reverse effect—that she would not be able to hold it, and that although I closed her hands on it, they would open, and that it would drop out of them, and such was the case,—to the great surprise of my worthy friend, who now desired to be informed what I had done to the instrument to invest it with this new and opposite power. This I declined doing for the present; but I promised to do so, when he had seen some further proofs of its remarkable powers. I now told him that a touch with it on either extremity would cause the extremity to rise and become cataleptic, and such was the result; that a second touch on the same point would reduce the rigidity, and cause it to fall, and such again was proved to be the fact. After a variety of other experiments, every one of which proved precisely as I had predicted, she was aroused. I now applied the ring of my instrument on the third finger of the right hand, from which it was suspended, and told the doctor, that when it was so suspended, it would send her to sleep. To this he replied, "it never will;" but I again told him that I felt confident that it would send her to sleep. We then were silent, and very speedily she was once more asleep. Having aroused her, I put the instrument on the second finger of her left hand, and told the doctor that it would be found she could not go to sleep, when it was placed there. He said he thought she would, and he sat steadily gazing at her, but I said firmly and confidently that she would not. After a considerable time the doctor asked her if she did not feel sleepy, to which she replied "not at all;" could you rise and walk? when she told him she could. I then requested her to look at the point of the fore-finger of her right hand, which I told the doctor would send her to sleep, and such was the result; and, after being aroused, I desired her to keep a steady gaze at the nail of the thumb of the left hand, which would send her to sleep in like manner, and such proved to be the fact.*

"Having repaired to another room, I explained to the doctor the real nature and

* The doctor here alleged that I had sent the patient to sleep by my will. This assertion, however I was enabled to refute; for I had been sufficiently *clairvoyant* to foresee what he would suppose, and to meet this difficulty had *willed* that she should *not* go to sleep.

powers of my little and apparently magical instrument,—that it was nothing more than my portmanteau-key and ring, and that what had imparted to it such apparently varied powers was merely the predictions which the patient had overheard me make to him, acting upon her in the peculiar state of the nervous sleep, as irresistible impulses to be affected, according to the results she had heard me predict. Had I predicted that she would see any flame, or colour, or form, or substance, animate or inanimate, I know from experience that such would have been realized, and responded to by her: and that, not from any desire on her part to impose upon others, but because she was self-deceived, the vividness of her imagination in that state, inducing her to believe as real, what were only the figments of fancy, suggested to her mind by the remarks of others. The power of suggestions of this sort also, in paralyzing or energizing muscular power is truly astounding; and may all arise in perfect good faith with almost all patients who have passed into the second conscious state, and with some, during the first conscious stage; and with some weak-minded, or highly imaginative or credulous and concentrative people, even in the waking condition. The latter constitutes that class of subjects who manifest what are called the “vigilant phenomena.” The true cause of these “vigilant phenomena” is not a physical influence from without, but a mental delusion from within, which paralyzes their reason, and independent volition, so that for the time being they are mere puppets in the hands of another person by whom they are irresistibly controlled, so that they can only see, or hear, or taste, or feel, or act, in accordance with his will and direction.* They have their whole attention fixed on what may be said or signified by this alleged superior power, and consequently perceive impressions through the excited state of the organs of sense, called into operation, which they could not perceive in their ordinary condition; and this sort of clairvoyance or thought-reading, the mesmerists attribute to some special influence, such as the new imponderable of Reichenbach. So soon as such patients can be made to believe that, in the waking state, the evidence of their senses is more trustworthy than mere ideal or suggested impressions; and that they can really exercise their own independent powers in opposition to the alleged power of the will of another, through his auricular suggestions or passes, and other manœuvres, it will instantly be found that the spell is broken, and that rational beings can no longer be magnetically tied together, or to chairs, or tables, or the floor; or made to see an object of every colour and hue, or metamorphosed into every nature, form, or creature the operator may incline and indite. It may have been interesting enough to have demonstrated that the human mind could be so subjugated and controlled; but, as I have formerly said, I do not consider the continual repetition of such experiments in the waking state, as at all proper, or free from the danger of throwing the faculties of the mind of such subjects into a permanently morbid condition.”

* Their minds are entirely engaged with a single idea, or train of ideas; actively alive to all which bears upon this, but, for the time being, dead to all else, as we continually see verified in cases of deep mental abstraction, and even during sleep, when the slightest impression bearing on certain points may be perceived, whilst intense impressions of any other relation may pass unheeded.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Note on the Vitellary nature of the Corpus Luteum. By C. D. MEIGS, M. D., Professor of Midwifery in Jefferson Medical College, &c. (In a letter to the editor.)

DEAR SIR:—I made, at the last meeting of the American Philosophical Society, a statement with regard to the Corpus luteum, to the following effect:

Upon turning the screw of the compressor, while a bit of fresh corpus luteum lies between the plates, I can, with a magnifying power of 500, perceive the escape from the crushed mass of vast numbers of corpuscles resembling, in every particular, the granules and corpuscles of the yolk of egg.

I have made the observation a great many times—and I have placed upon the platine, portions both of fresh yolk and fresh corpus luteum of the cow. Upon the most rigorous comparison of the microscopic appearances in each case, I cannot discover any difference, except that from the crushed bit of corpus luteum there escapes with the yolk grains, a certain quantity of detached cellular, or epithelial structure and blood discs.

When a portion of bright yolk, or a portion of equally bright corpus luteum is under the objective, the whole of the transmitted light, before the focus is obtained, is yellow, and alike in both cases, while the transmitted light is also yellow in passing through a single, or three or four separate corpuscles of either substance.

The micrographers have not noticed this appearance. Dr. Bischoff, in his *Entwickelungsgeschichte*, takes notice of numerous punctiform bodies, but does not hint at an idea of their being yolk grains.

The discovery of the vitellary nature of the corpus luteum, if I have really made the discovery, ought to prove interesting to the physiologist and the medicologist. I beg you, therefore, to do me the favour to mention the circumstances in the forthcoming number of your valuable Journal, in order that the microscopic observers may test its truth or error.

As my communication to the society was merely verbal, I shall feel compelled to present my views on the subject to that body in fuller details in writing. I am, dear sir, very truly,

Your obliged and respectful servant,

CHARLES D. MEIGS.

December 24th, 1846.

Death following a wound of the Heart, after seventy-eight hours. By WILLIAM F. ALEXANDER, M. D., of Charlestown, Jefferson County, Va.

A difficulty occurred between two individuals which resulted in the death of one of the parties under the following circumstances:—The deceased, whilst making an attack upon his opponent, received a blow upon his back, which immediately arrested his attention; he turned, and pursued the man who inflicted it. His opponent followed, and while in the rear, and on the left side of the deceased, was seen to strike him upon the chest with his left hand, in which he held an open knife. The de-

ceased was seen instantly to apply his hands to his side, saying, "I am a dead man," staggered a few steps and fell to the ground in a fainting condition: there was but little hemorrhage externally. He was borne to a neighbouring house, where, after a short time, under medical treatment, some degree of reaction ensued: and he survived until the evening of the fourth day, living about seventy-eight hours after the infliction of the mortal wound.

Post-mortem examination.—Two wounds found upon the left side, over the thorax: one below the clavicle, and over the second rib: the instrument had been arrested by the rib: no vessels of consequence opened: the wound about five-eighths of an inch in length, and considered of but little importance. The second wound over the fifth rib, three-fourths of an inch from its junction with its cartilage; the wound similar in size to the first, but surrounded by a livid circle or ecchymosis of considerable extent. Making careful examination with a probe, an indentation or groove in the rib was perceptible. On opening the chest, the left cavity found filled completely with bloody serum; the left lung collapsed, and bands of lymph, apparently of recent formation, united the pleura costalis to the pleura on the opposite side of the cavity; evidence of intense inflammation existed. Upon examining the internal face of the ribs, an incision was found corresponding to the wound on the surface—the rib itself severed, and the intercostal artery divided. Continuing the examination, the instrument was found to have traversed the cavity of the thorax, entered the pericardium, passed entirely through the heart, about half an inch from its apex, opening and passing through the left ventricle, and wounding the diaphragm. The pericardium contained some ounces of bloody serum. There were few coagula either in the pericardium or in the cavity of the thorax. There was no hesitation in ascribing to this wound the cause of death.

The instrument used in inflicting the wounds was the large blade of a coarse pocket-knife, not more than two inches and a-half in length.

The preceding is interesting, as it adds another to the cases on record, where an individual has survived for hours, and performed certain acts, after one of the cavities of the heart has been laid open; also affording an instance of a wound inflicted by the left hand, a circumstance of comparatively unfrequent occurrence, and which might have occasioned some difficulty on the examination, from the situation and direction of the wounds, had there been no witnesses of the act.

An extraordinary case of Urinary Calculi, 228 in number. Reported by DR. JOHN KELLY of the County of Schoharie, State of New York.

J—— G——, of this county, 73 years of age, of a healthy constitution in early life; about the age of fifty began to complain, and for 23 years was more or less troubled with the gravel. He had one severe attack eleven years before his death; but then for five or six years was quite free from symptoms of such disease; six years last June, he had a very severe attack, a good deal of fever and inflammation of the bladder, and after this for six years, a perfect inability of passing his urine without a catheter, which he was obliged to use about every hour night and day, for the six years, which he lived in great distress, but with great resignation.

Having been of industrious habits, he would busy himself in doing a little work in the garden and in the field—would engage in reading and in conversing of the news of the day, as almost every man among us is fond of doing; and he would sometimes go to church.

Two months before his death, which took place on the 22d of June, 1845, he sent for me to give him some relief, if possible, from his agony, but at the same time, having a view to the benefit of others, he requested me to attend to a post-mortem examination of his body, after his departure from this world, which to him, indeed, was a world of woe. I accordingly proceeded on the 23d of June, about eleven hours after his death, in company with Dr. Silas O. Gleason, and Mr. Andrew G. Riley, to attend said examination. The bladder we found much elongated and enlarged, reaching nearly to the umbilicus; it was extremely thickened, and at the lower part nearly an inch thick; at the fundus about half an inch was adhering to the surrounding parts in the whole extent, except the upper third; and the adhesions were very strong. Before opening the bladder we felt it almost filled with gravel, as I had been able to do before his death. Owing to the adhesions, it was extremely difficult to remove it from its location. We removed the urine by the catheter, which was thick, of a white appearance, very offensive, which had been the case about a week. The ureters were nearly nine times larger than they are naturally. The left kidney we examined, which had nothing natural in its appearance. It was only a bag of filthy and most offensive smelling liquid. The internal parts of the bladder had some enlargement of its blood-vessels, and at the lower part there was a tumour two inches in diameter and jutting out into the bladder, one inch and a half, of a scirrhus, and on the extremity of cancerous appearance. The bladder contained 216 calculi, which, together with 12 which passed him before his death, made 228. They were of different sizes and shapes. The small ones, probably about half the number, are of a light mahogany colour. The largest are of the appearance of a small cracker—of a smooth texture, and of a marble aspect. The largest is over an inch in diameter, half an inch thick in the centre,—weighs 111 grains. The internal part is not dense—somewhat cellular, so that they are of a light specific gravity. The whole weighs about three ounces. They, however, nearly filled the bladder, so that it could contain only about three tablespoonfuls of water. This was probably one reason why he had to draw his water so often; and it might be possible, that the adhesions being so great to all the surrounding parts, had an influence to prevent contractions of the bladder, and this would have the same effect as paralysis of that viscus.

Ferri Cyanuretum in the treatment of Ascarides of the Rectum.—A correspondent, who does not wish his name given, he not now being engaged in the practice of medicine, writes to us to invite the attention of the medical profession “to the use of the Ferri Cyanuretum, or Prussian Blue of commerce, in the treatment of *ascarides* in the rectum.

“From present observations,” he writes, “I am disposed to believe that upon a fair trial it will be found more effective in the treatment of the *inveterate* cases of the disease, than all other remedies.

“Commence with five grains of the Prussiate rubbed up in two ounces of rain water or mucilage of gum arabic, (the pure water is preferable, except in cases where much irritation of the mucous membrane exists;) throw this into the rectum, and retain it until the next regular defecation.

“Repeat this daily, gradually increasing the quantity of the Prussiate until perfect and permanent relief is afforded. I believe the greatest relief will be experienced after using it even once or twice.”

DOMESTIC SUMMARY.

Fracture of the Neck of the Femur within the capsular ligament, followed by perfect bony union.—Dr. E. GEDDINGS reports, in the *Southern Journal of Med. and Pharm.*, (Nov., 1846,) an interesting case of fracture of the neck of the femur, within the capsular ligament, in which perfect bony union took place. The subject of this case was a negro boy, 18 years of age, who was thrown down with great force by his comrades. When seen by Prof. Geddings, about a week afterwards, the patient was suffering great pain, increased on his being moved. A careful examination revealed the following conditions. Eversion of the foot; an audible crepitus in the vicinity of the hip-joint, especially when the member was rotated—the great trochanter describing a smaller circle than natural, and a very trivial shortening of the limb, which, when moved in the direction of the axis of the body, could be easily made to perform a limited motion upwards and downwards, attended with a very obvious grating crepitus.

From all these circumstances, Dr. G. did not hesitate to diagnosticate the existence of fracture of the cervix femoris, and thought it probable the fracture was within the capsular ligament. Considering the youth and good health of the patient, Dr. G. deemed it a favourable case for the procurement of ossific union. With this view, the patient was placed on his back, upon a proper mattress, and the limb was carefully put up in a semiflexed position, in the fracture apparatus invented by Professor N. R. Smith, of Baltimore. But in addition to the pelvic strap, with the view of restraining, as far as possible, all motion at the seat of fracture, the hip-piece of the apparatus was still more securely fixed, by successive turns of a spica bandage, extending, alternately, around the pelvis, and the upper part of the thigh.

He was kept carefully confined in this apparatus for ten weeks, suffering but little, except from his constrained position. At the end of this time, the adjustment was removed, and he was required to exercise the limb gently every day. By the end of the third month, he could walk with considerable ease with a stick, and before the end of the season he was able to resume his duties on the plantation. The limb, however, was shortened about an inch and a half, and the foot turned slightly outward, which occasioned a little halt in his gait. Notwithstanding this, Cyrus soon became one of the most active and sprightly negroes of the gang, and during the crop seasons of 1844–5, he was constantly engaged at the plough, without experiencing any detriment from his previous accident.

During the winter of 1845, he was, from some unknown cause, seized with idiopathic tetanus, which resisted all treatment, and carried him off in about six weeks.

A careful examination of the hip-joint was made after death, which exhibited the following appearances:—The capsular ligament was considerably thickened. A fracture had extended through the neck of the bone at its junction with the head. The cervix was entirely absorbed, and a vertical section through the head and neck, showed the former solidly united to the shaft, by a white line of bony union, extending upwards, in a perpendicular direction, from the tip of the trochanter minor. A considerable solid bony deposit had taken place externally, corresponding to the line of fracture. This is especially the case upon the anterior and superior part. At the former point, this deposit overlaps the corresponding portion of the head of the bone, throughout one-third its extent, and is perfectly consolidated with it, the corresponding cartilaginous covering having been absorbed; while, above, the new bony matter projects at least half an inch.

This case furnishes, Prof. Geddings conceives, unequivocal evidence of the possibility of the osseous union of fractures of the neck of the femur taking place within the capsular ligament, and when added to numerous facts and authorities which the Professor quotes in his paper, constitutes a body of testimony, he says, "adequate to convince the most skeptical, that, although our efforts to attain this end often fail, success, under judicious management, may be realized in a very considerable proportion of cases. In several instances referred to above, bony

union took place, even though all treatment, except rest, was neglected, and it is reasonable to infer, that if, instead of abandoning these cases to nature, as hopeless—a practice which, it is feared, the high authority of Sir A. Cooper has contributed to render too general—they were submitted to careful and judicious management, perfect recoveries would very often take place.”

Double Vagina.—Prof. MEIGS describes (*Med. Exam.*, Dec. 1846), two cases of double vagina. The first was observed in a lady 20 years of age, in labour with her first child. During an examination, whilst pressing the palp of his index finger to the left side of the pelvis, it caught in a seeming bridle, which at the instant led him to fear that the cervix uteri had been broken, so as to detach a semicircular portion of the os uteri, for the pains had been exceedingly sharp; but on pushing the index further and flexing the finger, he found he could draw the point of it outwards, pulling along with it the bridle in question. On examining then the structure of the external parts, he found the lady had a double vagina. After the head had escaped from the os uteri, Dr. M. was not able to force the partition, definitely either to the right or left. The two orifices of the vagina were exactly alike, and the partition extended across the head of the child, from the front to the rear of the passage, which by it was prevented from dilating. As the lady was strong and the uterine pains powerful, Dr. M. feared the vagina might be ruptured, and, therefore, with strong scissors divided the wall; whereupon the child's head speedily advanced, and delivery was soon accomplished. She never complained afterwards of the operation.

The second case occurred a week later, in a lady, æt. 30, in labour with her first child. The os uteri was very much dilated, and a buttock, near which was the right foot, presenting.

While inquiring into the state of the cervix, he hooked his finger into a bridle, just as he had done in the case above mentioned, and the same thought was obvious to him, viz., that she had broken off a half ring of the circle of the os uteri, but he immediately afterwards discovered that he had another case of double vagina under management. In this case the partition was very firm and thick, extending from the os magnum almost up to the os tincæ. He inspected the external structures, and the two vaginas were each perfect and alike, included within labia pudendi common to both.

Dr. M. disengaged the right foot and brought it down the right channel, the left leg was flexed upon the belly and thorax of the fœtus. With a little assistance the foot was delivered, and the buttock of the child coming downwards, thrust the vaginal wall to the left, and so the trunk was delivered. He had great difficulty to extricate the head of the child, which remained long in the vagina; the infant breathing from time to time the air that Dr. M. admitted through the hollow of his hand and fingers to its mouth and nostrils. The child, a male, was alive, and is in good health; the mother recovered, and is quite well.

Some years ago Dr. M. was called by the late venerable Dr. Ruan, to consultation upon a case of double vagina in a primiparous woman. He delivered the child with the forceps through the right canal, without difficulty or any injury, and had some five weeks later an inspection of the parts, which, as he remembers, were very similar to those described in his second case above.

Ligature of external Iliac Artery.—Dr. WEDDERBURN reports, in the *New Orleans Med. and Surg. Journ.*, (Sept., 1846,) a case of ligature of the external iliac artery for aneurism of the femoral artery which had burst the evening before. The patient lost before the operation from repeated bleedings, at least half a gallon of blood, which reduced him very much. Case went on favourably until the sixth day, when profuse hemorrhage occurred from the aneurismal sac. Two days afterwards hemorrhage again took place, by which a large amount of blood was lost. The next day the lower part of the leg and foot became gangrenous, the gangrene extended and the patient gradually declined and died the 11th day after the operation. On post-mortem examination, well-organized clots were found in the artery,—the one above the ligature extending as far up as the internal iliac, and for the distance of an inch above the ligature; so firmly connected with the

internal coat of the artery, as to have effectually prevented the occurrence of secondary hemorrhage. The clot below the ligature was not so large, but well organized. The aneurismal sac was so situated, and of such dimensions as to occupy a space of more than two inches, and involve the profunda—the external pudics, and the internal and external circumflex arteries; all of which were found to be constricted at their points of communication with the sac.

This large number of arteries communicating with the sac, accounts sufficiently well for the profuse bleedings which occurred after the operation; it being very probable that the communicating arteries had commenced adapting themselves to the condition of things previous to the rupture of the aneurism.

Dr. W. inquires whether in cases of this kind it would not be proper, after tying the artery above, to open the sac freely, remove the clot, and fill the cavity with lint, with a view of obliterating the vessels communicating with it, by the process of granulation? The circumstances connected with this case, he is induced to believe, point to such a course of treatment.

Amputation of the Superior Maxillary, Malar and Palate bones, for Disease of the Antrum—Recovery. By D. BRAINARD, M. D.—On the 16th of May, 1846, I was requested by my friend, Dr. Philip Maxwell, of this place, to consult with him in the case of Mary Derry, wife of Philip Derry, of Aux Plaines, Ill. She is 40 years of age, of good constitution, and is not subject to any hereditary predisposition to disease.

Present state. Upon the left side of the face, there exists a tumor of the size of an orange, extending from the orbit to the angle of the mouth, and from the nose to the outer part of the cheek. It also projects downward into the mouth, effacing the alveolar process and projecting the cheek, but not encroaching upon the soft palate or extending to the median line of the mouth. Its surface is red and highly vascular, it is painful particularly beneath the orbit, is firm, but slightly and obscurely elastic.

History. Near four years since, Mrs. Derry began to be afflicted with "gatherings in her head," when, after having pain in the left side of the face and head three or four days, there took place a free discharge from the corresponding nostril, and the pain was relieved. This continued to recur from time to time, until the autumn of 1845, when the discharge ceased to recur; the pain, however, continuing and becoming more severe.

In Jan., 1846, she for the first time perceived a swelling of the cheek, and applying to a physician, he removed one or two teeth which were loose, telling the patient, she had an "ulcer tooth." From January to the present time, the tumefaction and pain have increased, so that the patient obtained no rest without the use of anodynes. Since the first occurrence of the pain in her head, her general health remained pretty good until the autumn of 1845, when the menses ceased, and soon after, the pain and want of rest induced considerable emaciation. All the principal functions of the system, with the exception of those just mentioned, are performed with considerable regularity.

Operation. This was performed on the morning of the 23d of May, with the assistance of Drs. Maxwell and Herrick, and in presence of Drs. Kimberly, Boone, Dyer, and several other physicians and medical students, as follows: The patient was placed upon a bed on her back, with the head raised. An incision was then made from the internal angle of the eye to the mouth, dividing the left half of the upper lip at its middle. Another was carried from the upper end of this, in a curve, to the external angle of the eye, and from this point to the eminence of the zygomatic arch. The integuments were dissected up so as to form a broad flap and entirely expose the tumour. This dissection was somewhat difficult, and required great care from the thinning of the skin, which had taken place over the most prominent part of the diseased structure. The lip and ala of the nose were then dissected up, and the incisor tooth next the median line extracted. The next part of the operation consisted in detaching the diseased mass. With a common narrow saw of the amputating case, introduced into the nostril, the alveolar and palatine processes of the superior maxillary bone, and the palate portion of the palate bone, were easily divided, as far back as the soft palate. The nasal process of the maxillary, the connections of the malar bone to the external angular

process of the os frontis, and zygomatic process of the temporal bone, were then divided with the bone scissors, leaving only a posterior bony attachment. To divide this a chisel about one inch wide was placed in the temporal fossa, and with a couple of blows of the hammer it was entirely loosened. It only remained to divide the soft tissues below the orbit and the veil of the palate, at its attachment to the bone, and the whole mass was removed.

Immediately a sponge dipped in cold water was thrust into the wound to arrest the hemorrhage, which was very abundant from a great number of small vessels. In a few minutes this was arrested, with the exception of that from the division of the internal maxillary artery at the bottom of the wound; this required the actual cautery. No ligatures were used. On examining the wound the pterygoid processes were found exposed, and no traces of the diseased tissue remaining. The flap was then brought in place, and retained by about a dozen stitches of interrupted suture. No other dressings were applied, lest by their pressure they should interrupt the circulation in the flap.

The time occupied in removing the tumour, was, from the commencement of the operation, not over from five to ten minutes. It was, however, a severe one, and the patient, from the shock and loss of blood, was considerably depressed. Opium was freely given until pain and restlessness were allayed. This was required to be repeated for four days, in order to procure sleep at night. No unfavourable symptoms occurred; the flap adhered throughout by the first intention, and on the fifth day after the operation the menses returned. From this time there was no pain, her appetite and digestion were good, and at the end of a week from the operation, she was able to sit in a chair, walk about the house, and wash the wound herself. Healthy suppuration and granulation took place, and on the 15th of June she rode home, about 12 miles, without difficulty, and I saw her there on the 16th, extremely comfortable in every respect.

On laying open the tumour it was found to be composed of a firm fibrous mass nearly as dense as scirrhus in its crude state. There were several small cavities in it, containing healthy pus, but no trace of bony structure. On the outside it was found to be circumscribed on every side by healthy structures, showing that the whole of the diseased mass was removed. A microscopical examination of the tissue showed it to contain "granules and nucleated cells," like those described and figured as characteristic of malignant growths. Under these circumstances, the return of the disease is of course greatly to be feared. The patient has been placed upon such a regimen as to guard as much as possible against this, and we may at least reasonably hope that its return may thus be so far retarded as to give a respite of several years, from so dreadful a malady.—*Illinois and Indiana Med. and Surg. Journal*, August and September, 1846.

Case of Spontaneous Rupture of the Uterus in the third or fourth month of Pregnancy. Congenital absence of muscular walls of Uterus on one side, of Fallopian tube and ovary, and of the os tincae.—The following very remarkable case is related in the *Buffalo Medical Journal*, (Sept., 1846.) An unmarried girl, æt. 17, was suddenly seized with pains resembling colic, and soon died.

On post-mortem examination the following appearances were observed. Cavity of abdomen filled with coagulated blood, surrounding a fœtus of the third or fourth month. Uterus ruptured along its right side, from the fundus to near the neck. Left ovary and Fallopian tube entirely wanting. Right ovary and Fallopian tube were present, but the latter entered the uterus nigh to the neck, and the ovary was correspondingly lower than natural.

The uterus appeared to be developed to the size of the third or fourth month of gestation. The placenta was attached near the fundus upon the left side. On the side of the uterus where the rupture occurred, the walls of the organ were extremely thin. At the time of rupture there seemed to be nothing but the peritoneum, and in the immediate neighbourhood the friability was such, that it was readily torn by the fingers with slight force. On the left side the walls were of the usual thickness, but did not present the common fibrous appearance. On examination of the neck no aperture could be found, nor was there any trace of an *os tincae*. The neck resembled a tendon in appearance, but of less density. There was no communication whatever between the cavity of the uterus and the vagina.

Prof. F. H. Hamilton, to whom the ruptured uterus and fœtus were sent, gives the following further description of these parts:

"The uterus is torn near the attachment of the right broad ligament—walls on this side excessively thinned, so much so in some places as to leave little else than peritoneum,—opposite side of uterus about $\frac{1}{2}$ of an inch in thickness, and of usual consistence. Length of body of uterus, 3 inches—breadth $2\frac{1}{2}$ inches; cervix uteri 2 inches long, firm and broad at base, but gradually and regularly tapering to a thin, flattened extremity, covered by a smooth mucous membrane. Upon a careful dissection of the cervix, longitudinally and transversely, no channel, or line, or cicatrix, indicating the previous existence of an os tincae, could be discovered. The structure is rather more dense than that of the uterus in its natural state, but its density is uniform—it is not scarred or corrugated, nor does it present any evidence of its being a result of disease. The mucous coat which covers it, lies free, and can be as easily removed as such membranes usually may be.

"The right Fallopian tube terminates at about the middle of the right side of uterus—right ovarium is larger than natural, but apparently healthy. On the left side there is no broad ligament, nor Fallopian tube, nor ovarium, but the peritoneum covers it as smoothly as in front."

The girl had always enjoyed good health, had menstruated regularly three years until the last three months.

Ferrocyanate of Quinia.—Dr. H. V. WOOTEN, of Lowndesboro, Ala., states (*South. Med. and Surg. Journal*, April, 1846), that he has used the ferrocyanate of quinia in about fifty cases, and has found it, *when pure*, "act uniformly without those unpleasant effects which generally arise from the use of the sulphate, whilst it is just as certain, and more powerful, than an anti-periodic remedy. It lessens the frequency of the pulse, and gives tone and regularity to its action. It is more of a sedative to nervous irritation than the sulphate, and I believe that it will be found to act more uniformly as a diaphoretic than any other medicine. Being at first unacquainted with its effects, I gave it in very small doses, but experience soon led me to use it in doses of from two to five grains, according to the promptness of effect desired.

"In ordinary cases of intermittent fever, I cannot see that its effects are superior to those of the sulphate, (except that it gives no uneasiness,) and as it costs about double the price, I continue to use the sulphate in most cases of that disease. But in cases in which there is febrile excitement or inflammation, where the use of quinia is indicated, I use the ferrocyanate altogether, as I find it more certain and decided in its good effects than the sulphate, and not liable to produce any of the disagreeable disturbances of that salt. And I may add, that I use it with full confidence in all cases where I wish to exert a sedative and alterative, or regulating power upon the nervous system."

Oxalic Acid in Rhubarb Plant.—In the first number of the *Buffalo Medical Journal*, (June, 1845,) the accomplished editor, Dr. FLINT, states that a family of four persons, in Buffalo, after eating freely of the leaves of the domestic rhubarb or pie plant, boiled and served as "greens," were all of them shortly seized with severe vomiting. In one of the persons it was followed by gastritis. The others recovered directly after the vomiting.

In the succeeding number of the same journal, Lieut. E. R. LONG, M. D., gives an analysis of the plant, from which it appears "that the small bundles of the pie plant found in market, weighing about one pound, contain a little more than $\frac{1}{2}$ of the [oxalic] acid."

It appears from some experiments instituted by Mr. H. WILSON, (see *Provincial Med. and Surg. Journ.*, Sept. 2, 1846,) that in most persons using the rhubarb plant as food, oxalate of lime will be present in their urine; and that a rhubarb diet is capable of inducing the oxalic diathesis in individuals predisposed to it; or to the diseases characterized by it, and that it must, therefore, necessarily tend to exasperate and prolong such diathesis when it already exists.

These facts are important, as the plant is very extensively used as an article of food.

Topical application of Sulphate of Quinine.—Dr. WEDDERBURN, of New Orleans, extols (*New Orleans Medical and Surgical Journal*, January and September, 1846), the efficacy of the sulphate of quinine in the treatment of indolent ulcers. He applies it in solution, ten grains to the ounce of water.

In a subsequent number (Nov.) of the same Journal, Dr. RICHARD LEE FEARN, of Mobile, states that during the last five years he has frequently treated chronic conjunctivitis, and urethritis by direct applications of quinine dissolved in distilled water—in the latter cases, believing that the inflammation usually existed to the bladder, he has directed the injection to be thrown into it. He further says that for ten or twelve years he has treated chronic ulcers, especially those resulting from burns, with a preparation of quinine, prepared chalk and powdered rhubarb, with marked benefit.

Stillingia Sylvatica—Dr. H. R. FROST, in an article in the *Southern Journ. Med. and Pharm.*, (Nov., 1846,) states that he has administered this plant with advantage combined with other articles after the following formula:—

“R.—*Stillingia* root, recent, \mathfrak{z} iv; Sarsaparilla root, cut fine, \mathfrak{lbss} ; Shavings of Guaiac wood, \mathfrak{lbss} ; Sassafras root, \mathfrak{z} iv; Water, 1 gallon. Boil, in a close vessel, for a sufficient time to extract the virtues of the articles. Water must be added as it evaporates, and it may finally be reduced to two quarts. To this, sugar, or treacle is added, and the whole simmered to the consistence of a syrup.

“The active part of the *stillingia*, as well as that of other articles, being of a volatile nature, I therefore recommend that the sassafras root, and the shavings of Guaiac, be added to the mixture, towards the close of the boiling, and the *stillingia* added, in the form of a saturated tincture, to the syrup, in the proportion of a pint to the gallon.

“The dose for an adult will vary from \mathfrak{z} ss to \mathfrak{z} i, three or four times a day. For children, less.

“Thus prepared, the active matter is retained, and the tincture contributes to the preservation of the syrup.

“The combination of vegetable alteratives as I have delivered, will be found in some cases insufficient to contend with severe and complicated derangements of the system. To them it will be found advisable to unite the mineral; and under these circumstances, the per-chloride of mercury, in very minute quantity, or the iodide of potassium may be brought to our assistance.

“The *stillingia*, thus prepared and administered, will not be found unpleasant to the taste, and to be well adapted to many of the forms of secondary syphilis. It will be found excellent in restoring the appetite, strength and flesh of the patient.

“It will complete the cure of ulcerations of the palate, throat, and mucous membrane of the nose, skin and other parts.

“It will efface the blotches, foul spots, stains, &c., which, in a constitution of this character, so frequently occur from slight irritations, or which remain after the ulcerations have healed. It will remove that morbid condition of the solids and fluids, which disposes every injury, however slight, to degenerate into a festering, painful, scabby ulcer. It will, in short, so improve the digestive and assimilative operations of the system, that a more healthy blood and more renewed fibre will be substituted for the defective conditions of one and the other, and thus fully support the character bestowed on these medicines of being essentially alterative.

“To accomplish these objects, this class of medicines must frequently be long and perseveringly employed. It cannot be supposed that these important designs can be effected by a few or lengthened repetitions of these substances. To their continual use it will occasionally happen that other alteratives be added, as diet and change of climate, a long sea voyage, traveling, &c.

“The *stillingia*, as prepared, will be found useful in various affections of the skin, as in the pustular, papillary, and herpetic. Under the last I would consider not only the affections properly so called, but that very troublesome disease, *tinea capitis*, which, when long existing, refuses to yield to local remedies, and requires the aid of such as are constitutional.

“The *stillingia* combined, as I have stated, will be found useful in the chronic ulcerations of such frequent occurrence in the labouring and poorer classes of

society. The tonic and alternative impressions excited, contribute to the rapid and successful operations of granulation and cicatrization.

Magnesia as an Antidote to Arsenic.—Prof. PETER, of Transylvania Univ., in a paper in the *Western Lancet*. (Sept. 1846,) relates some experiments made by him, from which it appears that magnesia is a useful agent in the treatment of poisoning by arsenic, thus confirming the recommendation of Mr. Hume, of London, and others. Mixed with water, and administered continually, and in sufficient quantity, until all the poison is removed from the stomach, it would combine, he says, with the arsenious acid as soon as it became dissolved in the fluid in the stomach, and by withdrawing it immediately from solution, prevent its absorption into the living tissues. Even when the poison is taken in solution, we could doubtless succeed, by the speedy administration of a large quantity of this antidote, in gaining time to remove it from the stomach by the ordinary emetic means.

It is believed to be always desirable to evacuate the stomach freely after the use of any of the antidotes; more especially in poisoning with metallic substances; for, although the poison may, for the time being, be converted into a compound insoluble in water, yet it might not be safe to allow that substance to remain long in contact with the secreted acids of the stomach.

Many persons may be disposed to think that, having in the hydrated peroxide of iron, a good antidote to arsenious acid, it would be folly to throw it aside for another which has not yet been sufficiently submitted to the severe test of experiment on the living subject. But that the compound of iron is not always to be procured in time when it is wanted, and moreover is often inert from the improper manner of its preparation, while magnesia is almost always at hand, and can, generally, be procured in quantity; and it presents a range of antidotal power over various poisons not equaled by any other known substance. It is, therefore, to be strongly recommended as a substitute for the peroxide of iron, when the latter cannot be easily obtained.

Statistical Researches on Cancer.—The *Southern Med. and Surg. Journal*, for May last, contains an elaborate paper on this subject by Dr. JOHN LE CONTE. The following are the conclusions he draws from the statistical data he has collected:

1. *Age* is one of the most important elements in the development of cancerous affections. The *absolute* mortality from this cause is greatest between the age of 50 and 60; but the *relative tendency or liability* to the disease,—as deduced from the ratio of deaths to the number *living at each age*,—goes on steadily augmenting, in both sexes, to the 80th year.

2. *Women* are more liable to cancer than men, nearly in the proportion of 3 to 1. This ratio is not materially altered by the slight numerical inequality in the sexes in favour of females.

3. The *frequency* of cancerous affections *appears* to be progressively *increasing* in both France and England. This apparent augmentation is, without doubt, partly owing, to a progressive increase in the *mean duration of human life*, causing a greater number of persons to attain the age which renders them peculiarly obnoxious to the disease. In the Department of the Seine, the increase seems to be confined to the city of Paris. The disease is more frequent in the Department of the Seine than it is in England and Wales nearly the ratio of 4 to 1. No adequate explanation can be given of this striking disparity. About one person dies from cancer to every 22 deaths from phthisis in England; and for every case of the former there are 17 cases of the latter.

4. *Rural Habitation* seems to be unfavourable to the production of carcinoma. Both in London and Paris the proportional mortality is higher than it is in the adjacent country districts. But this may be owing to other circumstances than the influence of habitation.

5. Individuals following agricultural pursuits appear to be less liable to cancer than those employed in manufacturing. However, the data are insufficient to test, in a satisfactory manner, the influence of particular occupations.

6. The influence of the matrimonial condition on the production of carcinomatous affections, cannot be correctly estimated for want of the data requisite for establishing a just comparison.

7. The effect of climate is very doubtful.

8. The mortality from cancerous diseases is at its maximum during the cold season of the year: the inclemency of the weather accelerating the deaths from this cause, as it does in the case of most chronic diseases. The statistics show the influence of season on the *mortality* from cancer, but not on the *production* of the malady.

9. In relation to organs affected, the uterus is most liable to cancer; being attacked in about 32·8 per cent. of the total deaths from the disease in France; the stomach comes next, 25·2 per cent.; then the mamma, 21·7 per cent.; and then the liver, 6·3 per cent., etc.—Among females, the mortality from cancer uteri is about 43 per cent. of the total deaths from the disease in that sex, and the mamma 28·4 per cent. These proportions relate to the mortality from cancerous affections in the Department of the Seine in France.

Case of Double Consciousness (?)—Dr. B. F. BERKLEY relates (*Western Journ. of Med. Surg.*, Sept. 1846,) the following very curious case. Mrs. N. B., a married woman, aged 39 years, has been subject to neuralgia of the face for about 17 years. She is otherwise a healthy woman. Five or six years ago the disease became very violent, and assumed a strictly periodical type, returning every two weeks—at which times she suffered the most excruciating agony in the course of the fifth pair of nerves of the right side of the face. After suffering two or three hours in this way, she not unfrequently became sick at the stomach, and would vomit and purge. All these symptoms after a while subsiding, she would become entirely insensible to all external impressions. In this situation she would commence preaching in a loud and clear voice, and continue from two to three hours. She would then sink down as if she had fainted, and in fifteen or twenty minutes awake without the least knowledge of what had transpired.

“She has had these periodical spells of preaching for five or six years, every two weeks regularly, never having missed but two or three times. The case having attracted much attention, Dr. B. was induced to visit the subject of it during one of her attacks, and gave the following account of what he observed. He arrived at 9 o'clock, A. M., and found Mrs. B. sitting in an arm chair, suffering all the agony of a severe attack of facial neuralgia of the right side, though somewhat different from most cases of that disease. There was no twitching of the muscles, great turgescence of the vessels of the face and neck; muscles of the neck very rigid; eyes very red; excessive intolerance of light, so much so, that she could scarcely bear to elevate the eyelids.

“She says she feels an almost insupportable weight, like an incubus upon her head; there is an abundant secretion of saliva, which is altogether from the right side of the mouth. I talked with her for about an hour, or as long as she was capable of talking. I found her a very intelligent woman; she wished to know if there was nothing that would relieve her. I asked her if she had undergone any medical treatment. She said she had; that several eminent physicians had given her medicine. She had been cupped, her head shaved and blistered, ointment of veratria applied to the course of the nerve, and all the most noted antiperiodics, such as arsenic, the preparations of iron, &c., given in succession without the least benefit. She thought that under the tonic treatment she had got worse.

“She continued to get worse and worse from the time I went into the room until about 11 o'clock, when her eyes closed and she became perfectly insensible to external impressions. In this situation she commenced talking.

“She was placed in the sitting posture, in a large room where a great number of strangers had collected. When she first commenced talking, she appeared to be choked with a frothy saliva—but she soon cleared her throat, and preached for two hours and ten minutes, in a clear and distinct voice—sufficiently loud to be heard a hundred yards. She commences in the form of a prayer, but soon changes to preaching, quoting Scripture very fluently, and giving explanations. Sometimes she appears to wander in her mind, and not place her words properly, though this is seldom the case. Sometimes her appeals would be the most pathetic and eloquent I ever heard. The first warning you have that she is about to conclude, is the free spitting up of this frothy saliva. As soon as that appears, she falters and falls over. She continues insensible for fifteen or twenty minutes, all the time

spitting up this saliva, when she awakes by yawning like a person who had been asleep, and looks about with a vacant stare. She soon, however, regains her senses, and looks like another person, and knows nothing of what has transpired.

"The most remarkable circumstance connected with this case is, that she can neither see, hear, nor feel, during all the time she is preaching. She is not disturbed by any noise that may be made, and if pricked with any sharp instrument, does not flinch, and her eyes are closed during the whole time."

Mortality in St. Louis, during 1845. By VICTOR J. FOURGEAUD, M. D. (*St. Louis Medical and Surgical Journal*, Sept. 1846.) Whilst our western cities are increasing their inhabitants with such astonishing rapidity, it is interesting to the statistical and general inquirer to look into the causes tending to check that increase. This we are enabled to do in regard to St. Louis, through the valuable reports made in successive years by Dr. Fourgeaud, and published in the periodical referred to.

In the present article he has tabulated the mortality for 1845, so as to show for each month the deaths of children under 7 years, those that occurred at all ages over that period, and the total of all ages.

The whole mortality in 1845, is computed at 1694. Of this amount 945 deaths are reported under the 7th year, and 749 at all other periods. In September, the most fatal month, the deaths amounted to 254, about one-half of which were under 7. In June and July, the disparity between the deaths taking place under and over the 7th year is much greater. For example, the table shows us that in the two summer months named, the total mortality was 433, of which 294 were under 7, only 139 being set down at all other ages. In February, the most favourable month, the whole mortality was only 60, of which only 19 were over the 7th year. The months most favourable to children under 7, are April and November.

"The total amount of deaths for 1845, exceeds," says Dr. F., "that of 1844, by 109, but if we consider the rapid increase of our population, we will not be far from truth in putting down the ratio of mortality for 1845 about the same as for 1844, viz: 1 in 23.*

"We will now give the ratio of mortality for 1845 in other cities of the Union.

In New Orleans†	the whole number of deaths was 2783—population 150,000—1 death in 54.
Boston‡	" " " " " 1585 " 114,000 1 " " 44.10
Charleston§	" " " " " 570 " 29,963 1 " " 52.18
Chicago, (Ill.)	" " " " " 290 " 12,088 1 " " 41.08

"Comparing these statistics with those of our city, it will be seen that the mortality in St. Louis far exceeds, indeed more than doubles that of some of the above-mentioned places. We refer to our previous articles on this subject, for our opinions in regard to this lamentable disproportion. As soon as time will permit, we shall again take up this subject, being one which should interest not only the physician but the philanthropist."

The most frequent causes of death, in childhood, with the amount of mortality in 1845, assigned to each, are the following: cholera infantum, 166; dentition, 133; inflammation of the lungs and appendices, 62; consumption and marasmus, 58; convulsions, 54; enteritis, 44; inflammation and congestion of the brain, 35; hydrocephalus, 35. The amount of still born is 63.

In making an estimate embracing 5 years, (1841 to 1845,) of the mortality from particular diseases most fatal to children in St. Louis, the totals stand in the following order: cholera infantum, 560; convulsions, 267; dentition, 254; consumption and marasmus, 157; inflammation of the lungs and appendices, 137; inflammation and congestion of the brain, 113; croup, 105; measles, 94; enteritis, 88; hydrocephalus, 87; whooping cough, 87; dysentery, 87; worms, 51; scarlet fever, 20.

* In order to avoid unnecessary repetition we refer the reader to our articles on "The Mortality of St. Louis," published in vol. i., No. 12, and in vol. iii., No 1, of this Journal.

† New Orleans Medical Journal, vol. ii., p. 69.

‡ Ibid.

§ Annual Report of the City Register, by John L. Dawson, M.D.

|| Mortality of Chicago, by Wm. B. Herrick, Illinois Medical Journal, vol. ii. No. 2.

The whole number of deaths in the same period was 6,011, of which 2856 were of persons over 7 years, and 3,155 under 7 years.

Absence of Spleen.—Dr. R. LEEBY records, in the *Southern Journ. of Med. and Pharm.*, (Sept. 1846,) a case of entire absence of the spleen.

A similar case is recorded by Dr. MEINHARD, of St. Petersburg, in a German Journal.

Presumption of Survivorship.—The courts of law have been furnished with another case of this through the loss of the steamboat Pulaski. On board of that ill-fated vessel, in her voyage from Charlestown to Baltimore, was Sylvanus Keith and his only child, Caroline E. Coye, and her husband, George W. Coye, and their infant daughter and only issue, Caroline K. Coye. All perished at sea, on the night of the 14th of June, 1838. Sylvanus Keith left no wife, and no heirs in the ascending line. The judge of probate directed a distribution of his personal estate, to be made by his administrators, among his nephews and nieces, as his heirs-at-law. Sylvanus Keith was about seventy years old, Mrs. Coye about thirty-three, her husband about thirty-seven, and their child about eight or nine years old.

The decree of the judge of probate was appealed from, and one of the appellants was administrator of the estate of George W. Coye, and the other appellants were the next of kin of Caroline K. Coye, being her uncles and aunts.

Judge Dewey delivered the opinion of the Supreme Court of Massachusetts. He mentions, that the parties agree that no evidence can be obtained tending to show which of said persons actually survived. The case must hence be settled without any aid from this. He then mentions the provision of the civil law, according to which the daughter would be presumed to survive the father and the child, if above the age of puberty, its parent. "But no such doctrine has any sanction in our system of jurisprudence, either as a principle of the common law, or enacted by legislative authority." The enactments in the Code Napoleon, although probably well deserving of adoption by a legislative act, are equally inapplicable.

Taking the case under these circumstances, the court was of opinion, that the weak age and strength of the child were less adapted to sustain her, in the continuance of the struggle for life, than those of her mother or her grandfather. As to these last, while the greater age of the one was opposed by the weaker sex of the other, there could be no controlling presumption in favour of either, and in the absence of all facts, it could not be shown that the estate of Keith ever vested in his daughter Mrs. Coye.

He then reviews the recent English cases, which are familiar to all who have looked into the subject, and affirms the decree of the judge of probate, which placed the distribution in the hands of the administrators of Keith, and to be made in favour of his nephews and nieces, as his heirs at law, and to the exclusion of those who claim the same as the heirs either of Caroline E. Coye or Caroline K. Coye.—*Coye v. Leach*, 8 Metcalf's Massachusetts Reports. T. R. B.

The Right of a Physician to compensation for making a Post-mortem examination at the request of a Coroner.—In our last number, p. 538, will be found the opinion of the Hon. Judge Ellis Lewis, affirming the right of a physician to compensation for making a post-mortem examination at the request of a coroner. We now lay before our readers the opinion of Chief Justice Gibson as delivered in a case recently tried at Pittsburgh, in the Supreme Court of the Western District of Pennsylvania.

Dr. George Watt, of Pittsburgh, was called upon by the coroner, in two separate instances, to make official examination of dead bodies, upon which inquests were held.

For this service he charges the county fifteen dollars in each case; the County Commissioners declined to pay the bill, on the ground that the coroner had no power to contract for the county in such cases, and that no compensation for such services had been provided for in the fee bill by the legislature; and that they had no power to pay out the county funds, except where expressly empowered to

do so by act of Assembly, and that there was no precedent to justify such an expenditure, and resisted the payment that the matter might be litigated and the question settled.

The Doctor then brought suit, and obtained judgment before an Alderman, and afterwards in the Court of Common Pleas; the cause was then removed by the Commissioners, by writ of error, to the Supreme Court, which Court affirmed the judgment of the Court below. The cause was conducted by Thomas Mellon and John Barton.

The following is the opinion of the Supreme Court, which was delivered by Gibson, Chief Justice.

DR. GEORGE WATT *vs.* THE COUNTY OF ALLEGHENY.—Had the plaintiff below attended merely as a witness, though as an expert, he would have been entitled to nothing; for as the law provides no compensation for witnesses summoned by the Coroner, they must give their attendance gratis; and to allow the plaintiff as a witness, even the compensation allowed to witnesses in other cases, would be an infraction of the fee bill. But he was not called as a witness. When the testimony before the inquest was closed, it seems the jurors, being unable to agree as to the cause of the death, requested a post-mortem examination, which was made by the plaintiff to their presence, who expelled their doubts by the application of chemical tests in the contents of the stomach. In this he performed not the office of a witness, but the business of a person employed in a particular service. The Coroner might have compelled him to swear to his opinion on a superficial view of the body, but he could not have compelled him to touch it, or to do the more nauseous or dangerous work of opening it. The service he performed, though necessary to the purpose of the inquest, which could not have been effected without it, was not official, and consequently not in the contemplation of the Legislature at the forming of the fee bill; so that compensation for it is neither enjoined nor prohibited by that or any other statute. But though spontaneously rendered, both justice and policy require it to be paid for by the county, if it was rendered at the public instance and request; and the question is whether the Coroner, as a public agent, had authority to employ the plaintiff at the public charge. That officer certainly has authority to pledge the responsibility of the county for the compensation of all incillary services which are necessary for the execution of his office, and which he could by no other means command.—When his duty requires him to disinter a body, for instance, he cannot be expected to do it with his own hands, or by hands paid for with his means. True, he is entitled to fees, but not for mercenary services, and what he does receive is given for particular acts of official duties, not as a fund for contingent expenses. To the taking of every inquisition *super visum corpus*, perhaps without exception, a post-mortem examination is indispensable, and as the fees of the Coroner would be inadequate to the expense, if he was willing to forego compensation for his own services, either the public purse must pay for it or the administration of public justice must suffer for the want of it.

And why should not the county pay for it?—On the principle of the commissioners *vs.* Hall, 7 Watts, p. 290, the county would be liable for the medical treatment of a person taken ill upon trial, or as a juror in the box; and it would be strange if it should not be equally liable for professional services in the administration of public justice by the coroner, who is also a judicial magistrate, and competent at the common law, though the power has been taken away by statute, not only to receive accusations but to try them. Even prisoners in the county jail are provided with medical treatment, though the statute does not expressly direct them to be provided with anything but clothing and food; yet they are supplied with bedding, fuel and all other comforts proper for their condition.

There are a thousand contingent items of expenditure which cannot be disposed of specifically in a fee bill by special appropriation, and which must necessarily be charged to the account of humanity or justice. The coroner in this case had as much authority to order a post-mortem examination at the public charge, as the Court had to order boarding and lodging for the jury in the case of Commissioners *vs.* Hall. Each was employed in taking an inquisition of death, and each have the same collateral power in things incidental to the office. The plaintiff having been employed by the coroner was employed by the county; and he is entitled to a reasonable compensation. Judgment affirmed.

On the Effects of Emetics in the young subject.—By JOHN B. BECK, M. D., Prof of Mat. Med., &c., in the College of Physicians and Surgeons of New York. (*New York Journal of Medicine*, Sept., 1846.)—In this very interesting paper the author points out how the effects of emetics are modified in the infant subject, and draws the following valuable practical inferences from his investigations.

We can fully subscribe to the correctness of all of them.

"1. As a general rule," says Dr. Beck, "we need not be afraid of vomiting the youngest child, provided the means used be mild, such as ipecacuanha, &c. The mere act of vomiting is attended with no danger, while the remedial agency of an emetic is one of great power and value. Besides acting on the stomach, it extends its influence to the mucous membrane lining the pulmonary organs, promoting secretion in the first place, and then aiding in dislodging and ejecting morbid accumulations; accordingly, in pulmonary affections, there is nothing so efficacious.

"2. The vomiting induced by the preparations of antimony ought to be resorted to with great caution in very young children, and should never be used except in those cases where a sedative effect is required, and can be borne with safety. Inflammatory excitement ought then always to be present to justify its use in a young child. Where the object is simply to evacuate the stomach, it ought never to be thought of. In such cases as croup and pneumonic inflammation, it may be justifiably and beneficially used. In those cases it will be found, that the system can bear the sedative influence of the article much better than it can in the ordinary conditions of the system. Even here, however, care should be taken not to push the article too far, as dangerous collapse has been known sometimes to be the result.

"3. The continued use of tartar emetic in young subjects cannot be too specially guarded against. It is in this way, probably, that it is so apt to prove injurious. A single dose, even though it vomits very freely, may be borne with comparative impunity, while the repetition of it may keep up nausea and intestinal irritation, so as to cause injurious prostration. This is very likely to happen in cases of a chronic character, like whooping-cough. Although mild emetics are among our best remedies in this disease, and where the subject is old enough, a single emetic of antimony is frequently exceedingly beneficial, yet the repeated use of antimonial emetics, as is too often the case, appears to me to be a great error in practice. It is not indicated by the nature of the symptoms, and violates a great rule which ought always to be observed in the management of chronic cases, and that is, not to break down unnecessarily the strength of the patient.* Again, in ordinary catarrhal affections in children, a good deal of mischief is frequently done by the continued use of expectorant mixtures containing this active article. The Hive Syrup of Dr. Coxe, which is now in every family, and is given on the slightest occasions to infants, without even consulting a physician, has, I am convinced, done a great deal of harm. I say this without wishing to undervalue this preparation. In proper cases it is really a useful article, but persons out of the profession ought to know that its principal efficacy is owing to the quantity of Tartar Emetic which it contains, and that the indiscriminate use of it in cases where mild articles are required, must be injurious.†

4. As the effect of Tartar Emetic on the system cannot always be measured by its emetic operation, even in the adult, this fact ought to serve as a caution against the too common practice of giving repeated doses of it to produce vomiting in children, when they happen to be narcotized. While it fails to vomit, it may still operate as a poison to the system. In all cases of this kind, the proper method of

* Dr. Armstrong says that "it is a most notorious fact, that the whooping-cough is far more fatal in London than in the country; and I believe," he adds, "that this arises from the very free use of antimonials in London." Lectures, p. 248.

† Every ounce of Coxe's Hive Syrup contains one grain of tartar emetic. My friend, Dr. M'Cready, has communicated to me the particulars of a case in which a child between four and five years of age, labouring under whooping-cough, manifestly sunk under the too frequent use of this article. The exhibition of it had been continued about eight days, when symptoms of intestinal irritation came on, accompanied with great general prostration, which in a few days ended the child's existence.

treatment is, not to push the emetic, but to endeavour to restore the sensibility of the patient, and then sometimes vomiting comes on at once.

"5. In using tartar emetic in children, especial regard should be had to their constitutions. In those naturally delicate, and especially where the scrofulous diathesis exists, it should never be used if it can be avoided. Prostration is much more apt to ensue in them, and where the article is persisted in for any length of time, is sure to do harm. It is in such constitutions, when labouring under hooping-cough, and where the use of this article has been too long continued, that the baneful effects of it are most strikingly observed.

"6. It is perhaps hardly necessary to say that if tartar emetic be an article of such danger, the younger the subject to whom it is given, the more likely it is to do harm. In children under a year, I should say, as a general rule, it ought never to be used. During that period, the powers of life are too feeble to bear so active a remedy, at the same time that all the beneficial effects of an emetic may be gained from the use of ipecacuanha, or even milder means."

Inhalation of Ethereal Vapour for the Prevention of Pain in Surgical Operations. By JOHN C. WARREN, M. D.—Application has been made to me by R. H. Eddy, Esq., in a letter dated Nov. 30th, in behalf of Dr. W. T. G. Morton, to furnish an account of the operations witnessed and performed by me, wherein his new discovery for preventing pain was employed. Dr. M. has also proposed to me to give him the names of such hospitals as I know of in this country, in order that he may present them with the use of his discovery. These applications, and the hope of being useful to my professional brethren, especially those concerned in the hospitals which may have the benefit of Dr. M.'s proposal, have induced me to draw up the following statement, and to request that it may be made public through your Journal.

The discovery of a mode of preventing pain in surgical operations has been an object of strong desire among surgeons from an early period. In my surgical lectures I have almost annually alluded to it, and stated the means which I have usually adopted for the attainment of this object. I have also freely declared, that notwithstanding the use of very large doses of narcotic substances, this desideratum had never been satisfactorily obtained. The successful use of any article of the *materia medica* for this purpose, would therefore be hailed by me as an important alleviation to human suffering. I have in consequence readily admitted the trial of plans calculated to accomplish this object, whenever they were free from danger.

About five weeks since, Dr. Morton, dentist of this city, informed me that he had invented an apparatus for the inhalation of a vapour, the effect of which was to produce a state of total insensibility to pain, and that he had employed it successfully in a sufficient number of cases in his practice to justify him in a belief of its efficacy. He wished for an opportunity to test its power in surgical operations, and I agreed to give him such an opportunity as soon as practicable.

Being at that time in attendance as Surgeon of the Massachusetts General Hospital, a patient presented himself in that valuable institution a few days after my conversation with Dr. Morton, who required an operation for a tumour of the neck, and agreeably to my promise I requested the attendance of Dr. M.

On October 17th, the patient being prepared for the operation, the apparatus was applied to his mouth by Dr. Morton for about three minutes, at the end of which time he sank into a state of insensibility. I immediately made an incision about three inches long through the skin of the neck, and began a dissection among important nerves and blood-vessels, without any expression of pain on the part of the patient. Soon after he began to speak incoherently, and appeared to be in an agitated state during the remainder of the operation. Being asked immediately afterwards whether he had suffered much, he said that he had felt as if his neck had been scratched; but subsequently, when inquired of by me, his statement was, that he did not experience pain at the time, although aware that the operation was proceeding.

The effect of the gaseous inhalation in neutralizing the sentient faculty was made perfectly distinct to my mind by this experiment, although the patient during a part of its prosecution exhibited appearances indicative of suffering. Dr.

Morton had apprised me, that the influence of his application would last but a few minutes after its intermission; and as the operation was necessarily protracted, I was not disappointed that its success was only partial.

On the following day, October 18th, an operation was done by Dr. Hayward, on a tumour of the arm, in a female patient at the Hospital. The respiration of the gas was in this case continued during the whole of the operation. There was no exhibition of pain, excepting some occasional groans during its last stage, which she subsequently stated to have arisen from a disagreeable dream. Noticing the pulse in this patient before and after the operation, I found it to have risen from 80 to 120.

Two or three days after these occurrences, on meeting with Dr. Charles T. Jackson, distinguished for his philosophical spirit of inquiry, as well as for his geological and chemical science, this gentleman informed me that he first suggested to Dr. Morton the inspiration of ether, as a means of preventing the pain of operations on the teeth. He did not claim the invention of the apparatus, nor its practical application; for these we are indebted to Dr. Morton.

The success of this process in the prevention of pain for a certain period being quite established, I at once conceived it to be my duty to introduce the apparatus into the practice of the Hospital, but was immediately arrested by learning that the proprietor intended to obtain an exclusive patent for its use. It now became a question, whether, in accordance with that elevated principle long since introduced into the medical profession, which forbids its members to conceal any useful discovery, we could continue to encourage an application we were not allowed to use ourselves, and of the components of which we were ignorant. On discussing this matter with Dr. Hayward, my colleague in the Hospital, we came to the conclusion, that we were not justified in encouraging the further use of this new invention, until we were better satisfied on these points. Dr. Hayward thereupon had a conversation with Dr. Morton, in consequence of which Dr. M. addressed to me a letter. In this he declared his willingness to make known to us the article employed, and to supply assistance to administer the inhalation whenever called upon. These stipulations he has complied with.

This being done, we thought ourselves justified in inviting Dr. Morton to continue his experiments at the hospital, and elsewhere; and he directly after, Nov. 7th, attended at a painful and protracted operation performed by me, of the excision of a portion of the lower jaw, in which the patient's sufferings were greatly mitigated. On the same day an amputation of the thigh of a young woman was performed at the hospital by Dr. Hayward. In this case the respiration of the ethereal vapour appeared to be entirely successful in preventing the pain of the operation; the patient stating, afterwards, that she did not know that anything had been done to her.

On Nov. 12th, an operation for the removal of a tumour from the arm of a young woman was performed by Dr. J. Mason Warren. The vapour was administered for three minutes, when the patient became unconscious; the operator then proceeded, the inspiration being continued. Standing myself on one side of the patient, while the operator was on the other, so entirely tranquil was she, that I was not aware the operation had begun, until it was nearly completed.

On Nov. 21st an operation was performed by Dr. J. Mason Warren on a gentleman for the removal of a tumour, which covered nearly the half of the front of the right thigh. The patient lying upon a bed, the vapour was administered by Dr. Morton in the presence of Drs. Charles T. Jackson, Reynolds, J. V. C. Smith, Flagg, Gould, Shurtleff, Lawrence, Parsons, Briggs, and others. After he had breathed the vapour for three minutes his head fell, and he ceased to respire it, but presently awaking, the inhalation was renewed till he again appeared insensible. The operation was then commenced. At the first stroke of the knife he clapped his hand on the wound, but I immediately seized and held it during the remainder of the operation, though not without some difficulty in consequence of his struggles. The operation was completed in two or three minutes, and the patient remained quietly on his back with his eyes closed. On examination the pupils were found to be dilated; the pulse was not materially affected. After he had lain about two minutes I roused him by the inquiry, "how do you do to-day?" to which he replied, "very well, I thank you." I then asked what he had been

doing? He said he believed he had been dreaming; he dreamed that he was at home and making some examination into his business. "Do you feel any pain?" "No." "How is that tumour of yours?" The patient raised himself in bed, looked at his thigh for a moment, and said, "it is gone, and I'm glad of it." I then inquired if he had felt any pain during the operation, to which he replied in the negative. He soon recovered his natural state, experienced no inconvenience from the inhalation, was remarkably free from pain, and in three days went home into the country.

In all these cases there was a decided mitigation of pain; in most of them the patients on the day after the operation, and at other times, stated, that they had not been conscious of pain. All those who attended were, I think, satisfied of the efficacy of the application in preventing, or, at least, greatly diminishing the suffering usual in such cases. The phenomena presented in these operations afford grounds for many interesting reflections, but it being my principal intention at this time to give a simple statement of facts, I shall not pursue the subject further, but close with two or three remarks.

1st. The breathing of the ethereal vapour appears to operate directly on the cerebral system, and the consequent insensibility is proportionate to the degree of cerebral affection.

2d. Muscular power was for the time suspended in some cases, in others its loss was partial, and in one instance was scarcely sensible. The great relaxation of muscular action produced by a full dose of the application, leads to the hope that it may be employed with advantage in cases of spasmodic affection, both by the surgeon and by the physician.

3d. The action of the heart is remarkably accelerated in some cases, but not in all.

4th. The respiration is sometimes stertorous, like that of apoplexy.

All these changes soon pass off without leaving any distinct traces behind them, and the ordinary state of the functions returns. This has been the course of things in the cases I have witnessed, but I think it quite probable, that so powerful an agent may sometimes produce other and even alarming effects. I therefore would recommend, that it should never be employed except under the inspection of a judicious and competent person.

Let me conclude by congratulating my professional brethren on the acquisition of a mode of mitigating human suffering, which may become a valuable agent in the hands of careful and well-instructed practitioners, even if it should not prove of such general application as the imagination of sanguine persons would lead them to anticipate.—*Boston Med. and Surg. Jour.*

[It is asserted, on very reliable authority, that the vapour employed by Dr. Morton for inhalation, is pure sulphuric ether. The following conclusions, appended to a memoir, by M. Ducros, "On the Physiological Effects of Sulphuric Ether, administered by friction on the mouth and fauces," read to the French Academy of Sciences, are interesting in connection with this subject:—

"1st. Sulphuric ether, employed in frictions on the mouth and fauces, causes, in gallinaceous animals, instantaneous sleep, characterized by closing of the eyes and setting up (*hissement*) of the feathers.

"2d. If morphia, acetate of morphia, or extract of opium, be given during this sleep, the sleep, instead of being augmented, is instantly destroyed:—whence M. Ducros concludes that, in the gallinacæ, opiates are the antidotes to sulphuric ether.

"3d. If ether be given in poisoning by opium, the symptoms of poisoning are increased.

"4th. The soporiferous effects of ether thus administered to fowls, are also manifested in other animals and in man.

"5th. In cases of hypochondriasis attended with want of sleep, with wandering pains in the chest and abdomen, sulphuric ether employed in frictions on the tongue, velum pendulum, tonsils, and back of the pharynx, procures an agreeable sleep and calms the pains, and especially possesses these advantages in the midst of nervous excitement, when narcotics only tend to augment the general irritability.

"6th. In the convulsions of pregnant or child-bearing women, in the convulsions of the new-born, in hysterical attacks, in epileptiform paroxysms complicated with trismus (setting of the teeth,) and spasm of the œsophagus, where swallowing is impracticable, if the cavity of the mouth and pharynx be rubbed by means of a camel's-hair pencil dipped in sulphuric ether, the nervous attacks which, by long duration, might prove fatal, may generally be arrested."]

A novel method of detecting a needle by means of Magnetism.—By R. T. GILL, M. D., of New York. On Friday, November 13th, 1846, Miss D., while kneeling upon the carpet ran a cambric needle into her knee, and broke it. The usual ineffectual search having been made, it occurred to me, that a magnetic needle would detect it, and if the needle could be charged, its poles might be located. For this purpose, the north pole of a horse-shoe magnet was drawn several times from above downwards, over the point of entrance. Then having charged a darning needle, suspended by means of a thread, and holding it near the point where the cambric needle had entered, it was found to have slight polarity.

The horse-shoe magnet was then bound below the knee, diagonally across, so as to present the north pole towards the point of entrance, that the needle might thus be charged more effectually by induction. On the 16th, a proper magnetic needle having been procured and presented to the knee, its north pole was strongly attracted to a certain point, which was marked with ink; then on presenting the south pole, and moving it up about three-quarters of an inch, it was strongly attracted, and that point also marked. An incision at right angles, bisecting the disc between the two marks, struck the needle at its centre. Having passed a curved needle under it, so as to fix it, then cutting down upon one of its points, it was extracted.

The needle had moved more than its length below the place of entrance, caused somewhat, possibly, by the attraction of the horse-shoe magnet.—*Annalist*, Dec. 1846.

The Dog. By WM. YOUATT.—This is the title of a very splendid volume lately published by Messrs. Lea and Blanchard, and edited by Dr. E. J. Lewis, containing a history of the dog, "man's faithful and devoted friend," a description of its several varieties, its qualities, anatomical structure, and its diseases, and their treatment. The illustrations, which are numerous, are by Gilbert, and done in his best style. The additions by the editor relating principally to the diseases of the animal, add greatly to the value of the work.

Professor Bartlett.—We are happy to announce that this able and accomplished author is preparing a new edition of his work on Fevers, in which he will write out the histories of Bilious, Remittent, Congestive, and Yellow Fever, to correspond to those of Typhoid and Typhus, thus making the work more valuable to the medical men of the Middle, Southern, and Western States.

Royle's Materia Medica and Therapeutics.—Having been favoured with an early copy of this work, to be published in a few days by Messrs. Lea and Blanchard, we can speak of the handsome manner in which it is got up. The illustrations by Gilbert, are creditable even to that skillful artist.

Jones on Diseases of the Eye.—*Vogel's Pathological Anatomy.*—These two valuable works will be issued in a few days by Messrs. Lea and Blanchard. We shall notice them particularly in our next.

Summary of the Transactions of the College of Physicians of Philadelphia.—The proceedings of the college from Nov. 1841, to Aug. 1846, inclusive, forming a good sized volume, has just been published and is for sale at J. G. Auner's bookstore, No. 333 Market Street. It comprises much valuable practical matter.

The Annalist; a record of Practical Medicine and Surgery in the city of New York.—This is the title of a periodical, edited with great spirit and ability by Dr. WM. C. ROBERTS, and published bi-monthly. We shall enrich our own pages by extracts from it.

Advertisements.

UNIVERSITY OF PENNSYLVANIA.—MEDICAL DEPARTMENT.

SESSION OF 1846—47.

The Medical Lectures will commence on Monday, November the 2d, and be continued, under the following arrangement, to the middle of March ensuing:

Practice and Theory of Medicine,	-	-	By	NATHANIEL CHAPMAN, M. D.
Chemistry,	-	-	"	ROBERT HARE, M. D.
Surgery,	-	-	"	WILLIAM GIBSON, M. D.
Anatomy,	-	-	"	WILLIAM E. HORNER, M. D.
Institutes of Medicine,	-	-	"	SAMUEL JACKSON, M. D.
Materia Medica and Pharmacy,	-	-	"	GEORGE B. WOOD, M. D.
Obstetrics and the Diseases of Women and Children,	-	-	"	HUGH L. HODGE, M. D.

Clinical Instruction at the Pennsylvania Hospital.

The rooms for Practical Anatomy will be open from October 1st to the end of March ensuing. JOHN NEILL, M. D., Demonstrator.

Extensive cabinets of Anatomy, Materia Medica, Chemistry, Surgery, and Obstetrics, exist, and are in a course of annual improvement.

The Professor of Materia Medica, besides his cabinet, has a large and well-furnished Conservatory, from which are exhibited, in the fresh and growing state, the native and exotic Medicinal Plants.

W. E. HORNER, M. D., *Dean of the Medical Faculty,*
263 Chestnut Street, Philada., June 1st, 1846.

JEFFERSON MEDICAL COLLEGE.

SESSION OF 1846—7.

The regular Course of Lectures will commence on Monday, the second day of November, and end on the last day of February.

ROBLEY DUNGLISON, M. D., Professor of Institutes of Medicine.

ROBERT M. HUSTON, M. D., Professor of Materia Medica and General Therapeutics.

JOSEPH PANCOAST, M. D., Professor of General, Descriptive and Surgical Anatomy.

JOHN K. MITCHELL, M. D., Professor of Practice of Medicine.

THOMAS D. MUTTER, M. D., Professor of Institutes and Practice of Surgery.

CHARLES D. MEIGS, M. D., Professor of Obstetrics and Diseases of Women and Children.

FRANKLIN BACHE, M. D., Professor of Chemistry.

ELLERSLIE WALLACE, M. D., Demonstrator of Anatomy.

Every Wednesday and Saturday during the Course, Medical and Surgical cases are investigated and prescribed for before the class. During the past year not fewer than 1,000 cases were treated, and upwards of 172 were operated on. The Clinical Lectures are so arranged as to permit the student, should he desire it, to attend the Medical and Surgical practice and Lectures at the Pennsylvania Hospital.

On and after the first of October, the Dissecting Rooms of the College will be open under the direction of the Professor of Anatomy and the Demonstrator.

Owing to the large size of the class, which numbered 469 during the last session, it became expedient to make extensive and important alterations in the College edifice. These will be completed by the first of September.

R. M. HUSTON, M. D., *Dean of the Faculty,*
No. 1 Girard Street.

THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

COLLABORATORS.

- ELISHA BARTLETT, M. D. *Professor of the Institutes and Practice of Medicine in the University of Maryland.*
- T. ROMEYN BECK, M. D. *Professor of Materia Medica in the Albany Medical College.*
- JOHN B. BECK, M. D. *Prof. of Mat. Med. in the Coll. of Phys. & Surg., N. York.*
- JACOB BIGELOW, M. D. *Professor of Materia Medica in Harvard University, Boston.*
- A. BRIGHAM, M. D. *Superintendent and Physician to the New York State Insane Hospital at Utica.*
- JOS. CARSON, M. D. *Professor of Materia Medica in the Philadelphia College of Pharmacy.*
- N. CHAPMAN, M. D. *Professor of the Institutes and Practice of Physic and Clinical Practice in the University of Pennsylvania.*
- B. H. COATES, M. D. *of Philadelphia.*
- D. FRANCIS CONDIE, M. D. *of Philada.*
- S. HENRY DICKSON, M. D. *Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.*
- PLINY EARLE, M. D. *Physician to the Bloomingdale Asylum for the Insane.*
- GOVERNEUR EMERSON, M. D. *of Philadelphia.*
- CHARLES EVANS, M. D. *Attending Physician to the Friends' Asylum, Frankford.*
- JOHN D. FISHER, M. D. *one of the Physicians to the Massachusetts General Hospital.*
- E. GEDDINGS, M. D. *Professor of Surgery in the Medical College of the State of South Carolina.*
- W. W. GERHARD, M. D. *one of the Physicians to the Pennsylvania Hospital.*
- WILLIAM GIBSON, M. D. *Professor of Surgery in the University of Penn.*
- R. E. GRIFFITH, M. D. *late Professor of Medicine in the University of Virginia.*
- GEORGE HAYWARD, M. D. *Professor of the Principles of Surgery and Clinical Surgery in Harvard University, Boston.*
- HUGH L. HODGE, M. D. *Prof. of Midwifery in the University of Penn.*
- E. HALE, M. D. *Physician to the Massachusetts General Hospital.*
- THOMAS HARRIS, M. D. *Surgeon U. S. Navy.*
- CHARLES R. KING, M. D. *of Philada.*
- T. S. KIRKBRIDE, M. D. *Physician to the Pennsylvania Hospital for the Insane.*
- SAMUEL JACKSON, M. D. *Professor of the Institutes of Medicine in the University of Pennsylvania.*
- SAMUEL JACKSON, M. D. *Philadelphia.*
- WILLIAM E. HORNER, M. D. *Professor of Anatomy in the University of Pennsylvania.*
- VALENTINE MOTT, M. D. *Professor of Surgery in the University of New York.*
- JAMES McNAUGHTON, M. D. *Professor of the Theory and Practice of Medicine in Albany Medical College.*
- REUBEN D. MUSSEY, M. D. *Professor of Surgery in the Medical College of Ohio.*
- T. D. MUTTER, M. D. *Professor of Surgery in Jefferson Medical College.*
- G. W. NORRIS, M. D. *one of the Surgeons to the Pennsylvania Hospital.*
- C. W. PENNOCK, M. D. *one of the Physicians to the Philadelphia Hospital, Blockley.*
- WM. PEPPER, M. D. *one of the Physicians of the Pennsylvania Hospital.*
- NATHAN R. SMITH, M. D. *Professor of Surgery in the University of Md.*
- THOMAS STEWARDSON, M. D. *of Savannah, Ga.*
- ALFRED STILLE, M. D. *of Philadelphia.*
- JOHN A. SWETT, M. D. *one of the Physicians to the New York Hospital.*
- A. F. VACHE, M. D. *of New York.*
- JOHN WARE, M. D. *Professor of the Theory and Practice of Physic in Harvard University, Boston.*
- JOHN C. WARREN, M. D. *Emeritus Professor of Anatomy and Surgery in Harvard University, Boston.*
- EDWARD WARREN, M. D. *of Boston.*
- JOHN WATSON, M. D. *one of the Surgeons of the New York Hospital.*
- G. B. WOOD, M. D. *Professor of Materia Medica and Pharmacy in the University of Pennsylvania.*
- EDITOR—ISAAC HAYS, M. D., *one of the Surgeons to Wills Hospital for the Blind and Lame, &c.*

TO READERS AND CORRESPONDENTS.

The following works have been received:—

A System of Human Anatomy, General and Special. By ERASMUS WILSON, M.D., Lecturer on Anatomy, London. Third American, from the third London Edition. Edited by PAUL B. GODDARD, A.M.M.D., Prof. of Anatomy in the Franklin Medical College of Philadelphia. With 233 Illustrations by Gilbert. Philadelphia, Lea & Blanchard, 1847.

The Pathological Anatomy of the Human Body. By JULIUS VOGEL, M.D., Prof. of Clinical Med. in the University of Giessen. Translated from the German with additions by GEORGE E. DAY, M.A., and L.M. Cantab., &c. Illustrated by upwards of 100 plain and coloured engravings. Philadelphia, Lea & Blanchard, 1847.

Materia Medica and Therapeutics: including the preparations of the Pharmacopœias of London, Edinburgh, Dublin [and of the United States], with many new remedies. By J. FORBES ROYLE, M.D.F.R.S., Prof. of Materia Medica and Therapeutics, King's College, London. Edited by JOSEPH CARSON, M.D., Prof. of Mat. Med. in the Philada. College of Pharmacy, &c. &c. With 98 illustrations. Philadelphia, 1847.

A Practical Treatise on the Diseases of Children. By D. FRANCIS CONDIE, M.D. Second Edition, revised and augmented. Philadelphia, Lea & Blanchard, 1847.

New Elements of Operative Surgery. By ALF. A. L. M. VELPEAU, Prof. Clinical Surgery, of the Faculty of Medicine, &c. &c., carefully revised, entirely remodeled, and augmented with a Treatise on Minor Surgery. Illustrated by over 200 engravings, incorporated with the text: accompanied with an Atlas, in 4to. of 22 plates, representing the principal operative processes, surgical instruments, &c. First American from the last Paris edition. Translated by P. S. TOWNSEND, M.D., &c. Augmented by the addition of several hundred pages of entirely new matter, comprising all the latest improvements and discoveries in Surgery in America and Europe, up to the present time. Under the supervision of, and with notes and observations by VALENTINE MOTT, M.D., Prof. of the Operations of Surgery, with Surgical and Path. Anat. in University of New York. Vol. III., with a 4to. atlas of plates. New York, S. S. & W. Wood, 1847.

Lectures on Subjects connected with Clinical Medicine: comprising Diseases of the Heart. By P. M. LATHAM, M.D., Fellow of the Royal College of Physicians, &c. &c. Philadelphia, Ed. Barrington, and Geo. D. Haswell, 1847.

Handbook of Human Anatomy, General, Special, and Topographical. Translated from the original German of Dr. ALFRED VON BEHR, and adapted to the use of the English student. By JOHN BIRKETT, F.R.C.S., &c. Philadelphia, Lindsay & Blakiston, 1847.

Water versus Hydropathy; or an Essay on Water, and its true relations to Medicine. By HENRY HARTSHORNE, M.D. Philadelphia, Lloyd P. Smith, 1847.

A Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus: with remarks on the value of Leucorrhœa and prolapsus uteri, as symptoms of uterine disease. By JAMES HENRY BENNETT, M.D., &c. &c. &c. Philadelphia, Lea & Blanchard, 1847.

A Treatise on the Practice of Medicine. By GEO. B. WOOD, M.D., Prof. of Mat. Med. and Pharm. in the Univ. of Penna. In two vols. Vol. I. Grigg Elliott, & Co., 1847. (From the Author.)

A Treatise on the Diseases of the Eye. By W. LAWRENCE, F.R.S., &c. &c. &c. A new edition, edited with numerous additions and 176 illustrations, by ISAAC

HAYS, M. D., Surgeon to Wills' Hospital, &c. &c. Philadelphia, Lea & Blanchard, 1847.

Small Books on Great Subjects. No. VII. Christian Doctrine and Practice in the Second Century.

No. VIII. An Exposition of Vulgar and common Errors, adapted to the year of grace, 1845.

No. IX. An Introduction to Vegetable Physiology, with reference to the works of De Candolle, Lindley, &c. Philadelphia, Lea & Blanchard, 1846.

A Dictionary of Practical Medicine; comprising General Pathology, the nature and treatment of diseases, morbid structures, &c. By JAMES COPLAND, M. D., F. R. S. Edited with additions, by CHARLES A. LEE, M. D. Part XIII., XIV., XV., XVI., XVII. New York, Harper & Brothers, 1846.

Bill of Mortality of the city of Lowell, for the year 1846. (From Dr. A. H. Brown.)

A Lecture on Practical Education in Medicine, and on the course of instruction at the New York Hospital. Delivered at the Hospital, Nov., 1846. By JOHN WATSON, M. D., one of the Surgeons of that institution. New York, 1846. (From the Author.)

Lecture on Obstetrics and the Diseases of Women and Children. By GUNNING S. BEDFORD, M. D., Prof. of Obst. &c. &c., in the University of New York. New York, 1846. (From the Author.)

An Introductory Lecture delivered before the class of the Baltimore College of Dental Surgery, at the Session of 1846-7. By A. WESTCOTT, A. M., M. D., Prof. of Operative and Mechanical Dentistry. Baltimore, 1846. (From the Author.)

An Analysis of Physiology: being a condensed view of its most important facts and doctrines. Designed especially for the use of students. By JOHN J. REESE, M. D., Lecturer on Mat. Med. in Med. Institute of Philada., &c. Philadelphia, 1847. (From the Author.)

Report of the Progress of Practical Medicine in the departments of Midwifery, and the diseases of women and children, in the years 1845-6. By CHARLES WEST, M. D., &c. &c. London, 1847. (From the Author.)

The Pathology and Treatment of Scrofula; being the Fothergillian Prize Essay, for 1846. By ROBERT MORTIMER GLOVER, M. D., Corresponding Member of the Medical Society of London, Lecturer on Materia Medica in the Newcastle Medical School. Newcastle, 1846. (From the Author.)

Annual Report of the Inspectors of the State Prison at Auburn, to the Legislature of the State of New York, Jan. 13th, 1847. (From Dr. T. R. Beck.)

Annual Report of the Board of Inspectors of the Mount Pleasant State Prison, to the Legislature of State of New York, Jan. 6th, 1847. (From Dr. T. R. Beck.)

Annual Report of the Clinton State Prison to the Legislature of the State of New York, Jan. 8th, 1847. (From Dr. T. R. Beck.)

Annual Report of the Trustees of the State Library, made to the Legislature of New York, Jan. 16th, 1847. (From Dr. T. R. Beck.)

Fourth Annual Report of the Managers of the State Lunatic Asylum, made to the Legislature Feb. 2d, 1847. Albany, 1847. (From Dr. Brigham.)

Report of the Pennsylvania Hospital, for the Insane for the year 1846. By THOS. S. KIRKBRIDE, M. D., Physician to the Institution. Philadelphia, 1847. (From the Author.)

Twenty-Sixth Annual Report of the Bloomingdale Asylum for the Insane. By PLINY EARLE, M. D., Physician to the Asylum. New York, 1847. (From the Author.)

Report of the Committee [of the New York Senate] on Medical Societies and Medical Colleges, relative to the bill proposing the establishment of an asylum and school for idiots, &c. (From Dr. T. R. Beck.)

Eighth Annual Report of the Directors and Superintendent of the Ohio Lunatic Asylum, to the forty-fifth General Assembly, for the year 1846. Columbus, 1846. (From Wm. M. Awol, M. D., Superintendent.)

Reports of the Board of Visitors, and the Superintendent of the Boston Lunatic Hospital, for 1846. (From Dr. Stedman.)

Report of the Board of Inspectors of the Western Penitentiary of Penna., for the year 1846, with the accompanying documents. (From Dr. Gazzam.)

Eighteenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Philadelphia, 1847. (From Dr. R. A. Given.)

Regulations of the Hartford Medical Society, together with the fee table established Sept. 15th, 1846. Hartford, 1846. (From Dr. Russell.)

Proceedings of the Medical Convention of Virginia, held in the city of Richmond, Dec. 1846. Richmond, 1846. (From Dr. Peebles.)

The Annual Address to the candidates for degrees and licenses in the Medical Institution of Yale College, Jan. 20th, 1847. By RUFUS BLAKEMAN, M. D., Member of the Board of Examiners. New Haven, 1847. (From the Author.)

A Discourse on the public duties of medical men, delivered as an introductory lecture at the College of Physicians and Surgeons in the city of New York, Nov. 2d, 1846. By JOSEPH MATHER SMITH, M. D., Prof. of the Theory and Practice of Physic, and Clinical Medicine. New York, 1846. (From the Author.)

Address to the Graduates of Geneva Medical College. By CHARLES A. LEE, M. D., Prof. of Gen. Path. Mat. Med., &c. Published by request of the graduates. New York, 1847. (From the Author.)

An address delivered on the occasion of assuming the chair as president, at the first regular meeting of the New York Academy of Medicine, Feb. 3d, 1847. By JOHN STEARNS, M. D. Published by order of the Academy. New York, 1847. (From the Author.)

Lecture on some of the distinctive characteristics of the female. Delivered before the class of the Jefferson Medical College, Jan. 5th, 1847. By CHARLES D. MEIGS, M. D., Prof. of Obs. and Diseases of Women and Children. Philadelphia, 1847. (From the Author.)

An Introductory Lecture delivered before the class of Jefferson Medical College Nov. 5th, 1846. By ROBERT M. HUSTON, M. D., Prof. Mat. Med. and Gen. Therap. Published by class. Philadelphia, 1847. (From the Author.)

Catalogue of the Trustees, Officers, and Students of the University of Pennsylvania. Session 1846-7. Philadelphia, 1847. (From the Faculty.)

Catalogue and Circular of the Albany Medical College. Albany, 1847. (From Prof. Beck.)

Announcement of the Medical Institute of Philadelphia, for 1847. Philadelphia, 1847. (From Dr. Neill.)

Catalogue of Jefferson Medical College of Philadelphia. Session 1846-7. Philadelphia, 1847. (From Prof. C. D. Meigs.)

Catalogue of the Medical Department of Transylvania University for the Session of 1846-7, with a list of the graduating class; and also the circular for the Session of 1847-8. Lexington, 1847. (From the Faculty.)

The following journals have been received in exchange:—

Calcutta Journal of Natural History: Exhibiting a view of the progressive discoveries in Indian Geology, Zoology, Botany, and other branches of Natural Science. By J. M'CLELLAND, F. L. S., R. WIGHT, M. D., G. GARDNER, Esq., J. MACPHERSON, Esq., A. ROBERTSON, Esq. April, July, Oct., 1845, and Jan., 1846.

British American Journal of Medical and Physical Science. Edited by ARCHIBALD HALL, M. D., and ROBERT L. MACDONALD, M. D. Jan., Feb., 1847.

Journal de Chirurgie. Par MALGAIGNE. Nov., Dec., 1846.

Journal de Médecine. Par M. TROUSSEAU. Nov., Dec., 1846.

Algemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medicin, herausgegeben von Deutschlands Irrenärzten in Verbendung mit Gerichtsärzten und criminalisten, unter der Redaction von DAMERON, FLEMMING, und ROLLER. Bd. iii. Heft i. Berlin, 1846.

The Medico-Chirurgical Review, and Journal of Practical Medicine, Jan. 1847.

The Edinburgh Medical and Surgical Journal. Jan. 1847.

The British and Foreign Medical Review, or Quarterly Journal of Practical Medicine and Surgery. Edited by JOHN FORBES, M. D., &c. Jan., 1847.

The Retrospect of Medicine: being a half-yearly Journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences. Edited by W. BRAITHWAITE, Lecturer on Obstetric Medicine, &c. &c. July, Dec., 1846. London, 1847.

The Half-yearly Abstract of the Medical Sciences: being a Practical and Analytical Digest of the contents of the principal British and continental medical

works published in the preceding six months; together with a series of critical reports on the progress of medicine, and the collateral sciences during the same period. Edited by W. H. RANKING, M. D., Cantab., Phys. to the Suffolk Gen. Hospital, &c., vol. iv. July, Dec., 1846. London, 1847.

The Dublin Quarterly Journal of Medical Science. Nov., 1846.

Monthly Journal of Medical Science. Dec., 1846, Jan., 1847.

Provincial Medical and Surgical Journal. Edited by R. J. N. STREETEN, M. D. Dec., 1846, Jan., 1847.

The Medical Times, Jan., Feb., 1847.

The London Medical Gazette, Dec. 1846., Jan., Feb., 1847.

The Western Journal of Medicine and Surgery. Edited by Drs. DRAKE, YANDELL, and COLESCOTT. Jan., Feb., March, 1847.

The Southern Journal of Medicine and Pharmacy. Edited by Drs. SINKLER and GAILLARD. Jan., March, 1847.

The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica. Jan., 1847.

Boston Medical and Surgical Journal. Edited by J. V. C. SMITH, M. D. Jan., Feb., and March, 1847.

Stockton & Co.'s Dental Intelligencer. Jan., Feb., March, 1847.

The American Journal and Library of Dental Science. Edited by C. A. HARRIS, M.D., A. WESTCOTT, M. D., and E. J. DOWNING. Dec., 1846.

Illinois and Indiana Medical and Surgical Journal. Edited by Drs. BLANEY, BRAINARD, HERRICK, and EVANS. Dec., 1846., Jan., 1847.

The American Journal of Science and the Arts. Conducted by Profs. B. SILLIMAN and D. SILLIMAN, Jr., and JAMES D. DANA. Jan., March, 1847.

Southern Medical and Surgical Journal. Edited by Drs. EVE and GARVIN. Jan., Feb., 1847.

The Annalist; a Record of Practical Medicine in the city of New York. Edited by WM. C. ROBERTS, M. D. Jan., Feb., March, 1847.

The Medical Examiner and Record of Medical Science. Edited by ROBT. M. HUSTON, M. D. Jan., Feb., March, 1847.

The New York Journal of Medicine and the Collateral Sciences. Edited by CHARLES A. LEE, M. D., &c. &c. Jan., 1847.

The New Orleans Medical and Surgical Journal. Edited by Drs. CARPENTER, FENNER, HARRISON, and HESTER. Jan., March, 1847.

The Missouri Medical and Surgical Journal. Edited by THOMAS BARBOUR, M. D., &c., Dec., 1846. Jan., 1847.

The York Medical and Surgical Reporter. Edited by WM. R. WAGSTAFF, M. D. Jan., Feb., March, 1847.

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THE
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FOR APRIL, 1847.

ART. I.—*History of seven cases of Pseudo-membranous Laryngitis, or True Croup; with remarks on the treatment, and on the distinction between it and the other laryngeal affections of children.* By J. F. MEIGS, M. D., Lecturer on Obstetrics, and Diseases of Children, in the Philadelphia Medical Association, &c.

OF the various diseases which prevail especially amongst children, there is none, it seems to me, that excites or ought to excite a deeper interest in the members of the medical profession, than the one which forms the subject of the following article. Its fatality alone is sufficient to invest it with the highest importance, in the eyes of all who assume the responsibility of the care of those attacked by it.

The proportion of fatal cases to recoveries has been variously and vaguely estimated by different authors. All, however, agree that it is one of the most fatal of children's diseases. To show how dangerous it is, we need only to quote the opinions of MM. Rilliet and Barthez, in their valuable work on diseases of children, and of M. Valleix, in his *Guide du Méd. Praticien*. The former authors, in their first volume, page 347, say: "the most frequent termination of croup is unfortunately in death." M. Valleix, at page 350, vol. i., says: "Pseudo-membranous laryngitis is one of the most dangerous diseases to which infancy is liable: we might say, speaking in general terms, that, unless actively treated, it is a fatal disease." At page 351 he speaks of it as a disease "almost always fatal"—*presque constamment mortelle*.

The disease is dreaded by all who come in contact with it, not only for

the well-known difficulty of curing it, but for the dreadful sufferings which it entails upon those whom it attacks. No one, who has carefully and anxiously watched its insidious beginning, its slow and stealthy progress, its ruthless and steady advance, and the terrible sufferings which it produces, can fail to feel interest in whatever promises to elucidate, in any measure, its history, or to cast the faintest ray of light on the best method of treating it.

It is in the hope of adding a little, be it never so little, of information to what we already possess in regard to it, that we have been induced to report the following cases.

Of the seven cases, five occurred in my own, and two in my father's practice. Six of the seven occurred in the course of the year 1845, and one in 1846, in Philadelphia. During the former year the disease prevailed epidemically in that city, simultaneously with diphtheritic angina. In the early part of the same year measles and scarlatina were also very prevalent, more particularly the former, so that some of the older practitioners asserted that so extensive an epidemic had not occurred for many years. A number of cases of croup occurred in children labouring under measles, and not a few died in consequence of the complication.

CASE I.—D——, girl, aged 3 years. Called first on the night of January 1st, 1845. Dr. Godon, of this city, was in attendance when I arrived, and we attended the case together. The child had had cough for three days, gradually increasing in violence and frequency, and changing from a dry hack to the peculiar shrill cough of croup. The parents were not at all alarmed until the evening I was called upon, at which time the case first assumed the features of croup.

When I arrived the case appeared to be one of mild croup. The respiration was not stridulous, except during a forced inspiration, or just before and after coughing. The cough was loud, frequent and characteristic, the voice very hoarse. The temper was scarcely changed, and the inflammatory symptoms very moderate, showing that the local disease had made but little impression on the constitution as yet.

On account of the gradual approach of the attack, and the hoarseness of the voice, it was agreed upon by us to treat the case actively, as we feared it would prove to be membranous croup. The child was bled to the amount of five ounces from the arm: it was put in a warm bath, and an emetic administered.

The next day there was no decided improvement, and a number of leeches were applied to the throat. From this time to the ninth day, when the child died in a state of asphyxia, the treatment consisted in the employment of emetics of alum, of large doses of calomel with Dover's powder, of decoction of Seneka, and in the application of a blister over the larynx and trachea.

On the sixth day a decided amelioration occurred. This improvement followed the use of an emetic of alum, which had been preceded by considerable doses of calomel. The action of the emetic brought away a large quantity of very viscid glairy phlegm, intermingled with portions of membranous looking matter, which we believed to be pseudo-membrane,

enveloped in recently exuded fibrin. She expectorated for some time after this a good deal of the same kind of substance. It may be well to remark, however, that though the breathing and general condition of the patient improved at this time, the voice remained very weak and hoarse, and the cough retained its smothered sound. The case soon resumed its course, and notwithstanding resort was had to the same means, death occurred in a shape of the most distressing asphyxia.

At a *post-mortem examination*, the larynx and a few inches of the trachea were found occupied by a false membrane of moderate thickness and consistency, beneath which the mucous membrane was inflamed and reddened. The parts about the rima glottidis were swelled and thickened, so as to have contracted considerably the size of the orifice. This contraction was independent of the pseudo-membrane, and from the appearance of the parts we were convinced that it was the result of a chronic inflammation, dating from some time previous to the attack of croup. As the child had just recovered from a severe and long-continued hooping-cough, we felt satisfied that the contraction of the orifice had been caused by inflammation developed in the progress of that disease; and moreover, we could not but think that this complication was a chief cause of the death of the child, by preventing the ready expulsion of the contents of the larynx, after they had been softened by the action of our remedies.

CASE II.—R——, a boy, 4 years of age. First visit on Sunday evening, March 2d, 1845. The attack commenced on the Friday evening previous, with cough and hoarseness of the voice. On Saturday evening and night he had strongly marked croupy cough, with hoarseness of voice, which condition continued throughout the next day (Sunday) up to the moment when I was called.

At the time of my visit he had every symptom of confirmed croup. The cough was frequent, dry, noisy and ringing; the voice whispering and hoarse, the respiration stridulous and difficult. I feared that the case would prove one of membranous croup, and determined to treat it actively. I bled him myself to six ounces, when he became faint. Ordered a teaspoonful of powdered alum in molasses, to be given every fifteen minutes, until free vomiting was induced, and directed that he should be placed in a warm bath in the course of the night.

March 3d. Emetic acted freely. No improvement whatever. Ordered v. s. to $\bar{\text{z}}$ iv; calomel grs. iv.

In the evening, his condition being much the same, the alum emetic was repeated.

4th. Breathing more difficult; stridulous respiration very loud and strong; frequent smothered cough; whispering voice; pulse frequent, and remarkably large and violent; skin hot and dry. Ordered v. s. to faintness; calomel combined with opium.

In the evening he was much better. About four ounces of blood had been drawn with marked relief. The clot presented a very strongly marked buffy coat. The fever had disappeared. The respiration was still stridulous, but much less difficult. His whole condition much improved.

5th. Continues to improve. Breathing quiet and easy. Cough still very croupy, and voice hoarse. He was put on small doses of hive syrup, frequently repeated. When I paid my last visit, on the 6th March, he was out of danger and did not require any further attendance.

CASE III.—G——l, girl, 18 months old: healthy, though of delicate appearance, having a very fair, transparent complexion.

My first visit was on Thursday, 24th of April, 1845. The child had had some cough and hoarseness of the voice and cry, for five days. Three days before I was sent for my father had been requested to visit the child. He did so, but finding that it had merely slight cough without any serious symptoms, prescribed nothing except care as to exposure.

When I first saw the child, she had a frequent, short, smothered cough, bearing every character of croup. The respiration was slightly stridulous, even while the child sat entirely quiet and still in her mother's arms. The cry was hoarse and smothered. There was no fever, and the temper was scarcely changed from its usual condition. On examining the fauces, I discovered on each side, between the half arches, a patch of whitish exudation as large as a shilling piece, which I believed to be fibrine. I told the parents at once that the case was one of creeping or membranous croup, and that the life of the child was in imminent danger. Ordered *v. s.* from 4 to 6 oz., a warm bath, and an emetic of powdered alum: the fauces to be touched with a strong solution of nitrate of silver.

Friday, 25th. No improvement: was bled to four ounces; took the emetic, which operated well after a single dose. When asleep the stridulous sound is very loud during both inspiration and expiration; cough short, dry and smothered as before; cry weak and whispering. Ordered calomel grs. *iv.*, to be followed in a few hours by another emetic of alum. Solution of nitrate of silver to be reapplied.

Saturday, 26th. Condition of the patient very disheartening. Excessive difficulty of breathing. Stridulous sound strongly marked. When she attempts to cry, a faint hoarse whisper alone is heard; cough short, abrupt and weak; skin warm and natural; pulse rapid and feeble; countenance very pale and pinched; temper has become very irritable, so that the child refuses to submit to any examination except by force. Ordered calomel grs. *xii.*, in three powders, one of which to be taken every two hours, and two hours after the last, an emetic of alum.

At my next visit in the evening, the child was sleeping quietly and tranquilly, and though the respiration was still stridulous, there was much less effort. The emetic had been given after the calomel as directed. It had operated freely, and brought away a large quantity of very tenacious, sticky phlegm, of the consistence of the white of egg, but of much darker colour. Immediately after this the breathing became easier, and the child had fallen into the quiet sleep in which I found her.

From this moment the violence of the symptoms gradually ameliorated, so that when I paid my last visit on the 30th of the month, the twelfth day of the sickness, the disease had disappeared, with the exception of some hoarseness and weakness of the cry.

CASE IV.—K——d, girl, aged 3 years. Had been sick for three or four days before I was sent for, with violent fever, excessive restlessness, and total loss of appetite. I saw the child first on the 25th of April, 1845. The parents did not suppose it ill, and were entirely ignorant of the nature of the malady.

I found the fauces in a state of intense inflammation, and covered with a thick coat of false membrane. The uvula was enormously swollen, and moulded all over with fibrine. External lymphatic glands very much enlarged; pulse strong and frequent; skin very hot and dry, and of a dusky

hue; countenance distressed. Respiration quick but without stridulous sound; voice veiled, but not hoarse or whispering. Ordered a free application of leeches to the throat and a purgative dose of senna; a strong solution of nitrate of silver to be applied to the fauces with a camel's hair pencil.

Saturday, 26th. Worse in every respect. The application of caustic to be continued. Ordered a warm bath; and small doses of tartar emetic to be repeated every hour.

Sunday, 27th. No improvement, no abatement of the fever; extreme restlessness and irritability. Fauces in same condition; begins to cough; cough croupy; voice hoarse; throat to be cleansed with a mop; caustic applications continued; hot poultices to neck; warm bath.

Monday, 28th. 4 A. M. Croup fully developed; loud stridulous respiration; hoarse dry cough; weak whispering voice. Ordered an emetic of alum, which operated freely without any beneficial effect. Died at 9 A. M. asphyxiated.

CASE V.—H——n, boy, 2 years of age. Paid my first visit on the evening of June 1st, 1845. The child was sitting in his mother's lap down stairs, apparently not at all sick. I was informed that he had had slight cough for several days, which had assumed a croupy character the night before. During the day on which I saw him, he had had a frequent, hoarse cough, which at times resembled that of croup. The voice also had been hoarse. To all appearances he was perfectly well, with the exception of the alteration of the voice, and the hoarse cough. Appetite good; spirits natural; temper unchanged.

I listened carefully to his breathing. It was natural and devoid of all stridulous sound. There was no alteration of the pulse; I made him speak; the voice was hoarse. The cough was loud and barking, but not preceded by whistling as in spasmodic croup, or in the advanced stage of the membranous form.

Directed him to be put to bed immediately, and kept there as a measure of precaution. To have a warm bath, and to take hive syrup at intervals, until vomiting is produced. I desired to be sent for, in case he should become worse in the course of the night.

Monday, 2d. I did not see him until noon, in consequence of detention. Found that he had slept the greater part of the night, disturbed from time to time only by a croupy cough. In good spirits and temper.

Voice hoarser and weaker; cough more frequent, louder and accompanied by whistling. There is now present marked stridulous sound in the respiration. On examining the throat I found on each side of the fauces, patches of exuded fibrine about the size of a shilling. The presence of this exudation, with the other symptoms, convinced me that I had to do with a case of membranous croup, as yet in the early stage, and I resolved to treat it as such. Ordered v. s. to affect the pulse decidedly; to be followed by an emetic dose of alum. The fauces to be touched with a strong solution of lunar caustic.

Evening. He lost about five ounces of blood, and vomited freely. There was no improvement whatever in his symptoms, and I directed a repetition of the bleeding. To take small doses of hive syrup through the night.

3d. To-day somewhat improved, though the stridulous respiration continued all day. Cough short and smothered; voice very hoarse and weak.

Ordered calomel grs. iv., to be followed in two hours by an emetic of alum. Continue application to the fauces.

4th. Morning. Not so well. Greater difficulty of breathing; all the symptoms, indeed, aggravated; some fever, with full pulse and hot skin. Ordered him to be bled again, when he lost about five ounces. To take the calomel again, followed by the alum emetic.

Evening. Better. Breathing much less difficult; has been sleeping tranquilly, with less of the stridulous sound. The emetic had acted freely, and amongst the substances ejected, was a considerable quantity of membranous patches or flakes, evidently debris of false membrane from the larynx. Some of these were as large as the finger nail, and perfectly well characterized.

5th. From this time he gradually recovered. The treatment consisted in the use of small doses of hive syrup; seclusion in a warm room, and carefully regulated diet and dress. The recovery was slow; the stridulous sound ceased little by little, and the voice slowly returned to its natural tone. It was still weak and hoarse on the 10th, when I paid my last visit.

CASE VI.—H——n, girl, æt. 5 years and 6 months. This was a sister of the boy whose case was described last. Became indisposed on Saturday, Oct. 25th, 1845. Slight fever; languor; loss of appetite; but no sign of local disease. A dose of laxative medicine was given by the parents, they not deeming her ill enough to require the attendance of a physician. Next day (Sunday) she seemed better, and was running about the house. In the evening complained of her throat, which was rubbed with a stimulating liniment. During Monday and Tuesday she continued unwell and feverish. Was kept in the house but not confined to one room.

Wednesday, 29th. The father looked into the throat, and observing some whitish patches like those which had been present in the case of the son related above, became alarmed and sent for my father.

Dr. Meigs saw the child in the evening. It had considerable fever; there were patches of fibrine in the fauces, but no cough nor other sign of laryngeal disease. He ordered v. s. to ζ vi.

Thursday, 30th. Throat violently inflamed, with extensive thick patches of false membrane on the uvula and half arches; considerable fever; some cough, and difficulty of deglutition.

He ordered leeches to the throat in the morning; a strong solution or lunar caustic to be applied to the fauces; minute doses of tartar emetic every hour. In the evening, small blisters were applied over the region of the parotid glands.

Friday, 31st. To day I saw the patient for the first time. Decubitus dorsal; countenance distressed and anxious; dark, reddish, or purple hue of the whole face, with deep brick coloured flush on the cheeks. Loud stridulous respiration, with great dyspnœa; cough hoarse and croupy; voice weak and whispering; fauces most violently inflamed; uvula swelled to twice its usual size, of a globular form, and entirely covered with a thick deposit of pseudo-membrane. It is so large that it seems to block up the isthmus of the fauces entirely. The half arches and the pharynx are also thickly covered with pseudo-membrane; intelligence perfect; pulse frequent and full, but compressible; skin hot and dry.

Throat to be touched with the nitrate of silver. Tartar emetic solution every hour.

Saturday, Nov. 1st. Situation much the same all day. Hot poultices to neck; other treatment continued; alum emetic.

Sunday, 2d. 8 A. M. Most violent croup; loud stridulous respiration; voice faint and whispering; cough short and smothered; distressing orthopnea. All the symptoms indicate a speedily fatal termination, unless relief be afforded. R. Pulv. ipecac. \mathfrak{z} i. in pulv. \mathfrak{v} . One to be taken every fifteen minutes, until vomiting is induced. She took three of the powders, and then underwent two of the most distressing paroxysms of suffocation imaginable. The breathing became more and more difficult; the pulse began to run with the greatest rapidity; the expression of the face became more and more anxious. She began to throw herself about upon the bed with appearances of intense suffering. Suddenly she rose up in bed, with a look of the utmost terror. The face became bluish; the eyes stared wildly from the sockets; the effort of breathing grew more and more difficult, and at length seemed to cease. In this sad condition, she threw herself about with the most violent contortions, so that all my force was necessary to prevent her from casting herself out upon the floor. Her struggles were fearful. Her expression lost all intelligence, and became frantic with the wildest terror. Her face, neck, and upper part of the thorax became of a deep livid colour; a noisy gurgling was heard in the throat, which was followed by a cessation of all sound: the face became pale and white, the blue tip of the tongue protruded between the partially opened jaws, and she fell at length an inert, and seemingly lifeless mass upon the bed. All in the room thought her dead. The pulse had ceased to beat, and for a while animation was suspended. After a total silence of some moments, after an apparent death, a feeble gasp was heard to distend her chest, another succeeded, then another and another, until at last respiration was re-established.

She continued in this state, devoid of consciousness for half an hour, when again a paroxysm of suffocation with the most distressing, heart-rending struggles came on, and again she fell back exhausted and apparently dead. Those who saw her, thought and hoped that death had at last done its work, for we no longer had the least hope of her recovery, and dreaded to see a return of such terrible sufferings. The respiration, however, gradually returned, and was somewhat less difficult than before the first paroxysm.

She remained insensible after this attack, which occurred between 9 and 10 A. M., until the middle of the day, when consciousness returned.

During the afternoon, she took fifteen grains of calomel in divided doses, and was somewhat less oppressed.

Monday, 3d. She passed a rather better day. Respiration still very stridulous, with great dyspnea. Cough short and smothered; voice whispering as before. The parts about the fauces rather less tumefied; the pseudo-membrane begins to be detached. Took, to-day, a few grains of calomel.

Tuesday, 4th. Not so well as yesterday. Excessive difficulty of breathing. The effort of the respiratory muscles in effecting the expiration is as great as during that of inspiration, so that each respiration requires a slow, laborious inspiration, and then a fatiguing violent effort, to accomplish the expiration. Stridulous sound very loud, in both inspiration and expiration. In the afternoon all seemed hopeless again, so painful and difficult was the breathing. R. Calomel gr. xv; pulv. opii et ipecac. grs. iss; in pulv. \mathfrak{iii} . One every two hours.

In the evening, after taking the calomel, she seemed to be somewhat

relieved. The orthopnœa was not quite so great. A blister was applied over the interscapular space.

Wednesday, 5th. Rather better; respiration easier; stridulous sound not so loud; cough somewhat loose. R. Potass. carbon. ℥ss; mistura ℥iv. A teaspoonful to be given in connection with a teaspoonful of decoct. senegæ every two hours.

Thursday, 6th. Much better. Respiration easy; stridulous sound diminished in intensity; cough loose; voice still very weak and whispering; condition of the fauces improving very much.

From this time she slowly but steadily recovered. Her voice was still hoarse and feeble, on the 12th of December, when I saw her last, though her general health was pretty well re-established.

CASE VII.—H. H., a girl, æt. 2 years; a hearty, vigorous child; a patient of my father's, to whom I was called on several occasions during his absence, in consequence of the urgency of the symptoms.

I first saw the patient on Saturday evening, Dec. 12th, 1846. The attendants reported that the child was perfectly well on the Thursday previous. On Friday afternoon and evening, became hoarse, and had slight cough. She slept well Friday night, but on Saturday waked in the morning with marked hoarseness, and about 9 A. M. had all the premonitory symptoms of croup. A dose of castor oil was administered by the mother. At 10 A. M. she was visited by my father. She had at this time a fully developed paroxysm of croup; loud, harsh cough; stridulous respiration and dyspnœa. He directed hive syrup, half a teaspoonful, to be repeated every fifteen minutes, until emesis was produced.

Evening. Has taken the hive syrup, and vomited freely at intervals for two hours. She appears much relieved. When quite still there is no stridulous sound, but on movement or crying, it is loud and strong; voice hoarse; cough hoarse and croupy; no fever; fauces inflamed and tumefied, but no appearance of false membrane. Hoping it was a case of spasmodic croup, which had been in great measure relieved, I ordered syrup ipecac. gtts. xx every two hours; the fauces to be touched with a solution of nitrate of silver, ten grains to the ounce.

Sunday, Dec. 13th. Morning. Has passed only a tolerable night. Voice and cry still very hoarse; cough croupy; slightly stridulous respiration; temper good. R. Aluminis ℥j; syrup ipecac. ℥j; aquæ ℥ii. M. Give a teaspoonful every two hours.

Evening. Continued much the same through the day, but towards evening became worse, until at 9 P. M., had a return of all the violent symptoms of a paroxysm of croup. I was sent for at 10 P. M., and found her with great dyspnœa, loud stridulous respiration, hoarse, shrill cry, and frequent loud cough. On examining the fauces, discovered patches of white deposits on each tonsil; the uvula and half arches very much inflamed, but without false membrane.

Applied the caustic solution immediately, and administered a teaspoonful of powdered alum in molasses. Within five minutes the child vomited freely, and continued to do so at intervals for half an hour. Directed a venesection ad. ℥iv in one hour. R. Hydrarg. chlor. mitis. grs. xii; in pulv. vi. One to be given every hour and a half after the bleeding. The alum emetic to be given again towards morning, should the dyspnœa return.

Monday, 14th. The blood drawn the evening before presented a buffy coat. The child vomited freely during the venesection, and was very pale

and weak, with profuse sweat, for some time after. Has taken all the powders.

Is much better. Breathing quiet and tranquil; cough still hoarse and croupy; voice and cry both hoarse. The stridulous sound heard only before the cough or cry. To take an infusion of senna and manna, to purge off the calomel.

Continued in this state until towards evening, when a severe recurrence of all the symptoms took place. I was sent for at 11 P. M., and finding the same condition as the night before, ordered a repetition of the alum and calomel.

Tuesday, 15th. Morning. The emetic operated very freely. The nurse says it brought away a large quantity of very thick, tenacious phlegm, mixed with flakes or patches as large as her finger nail, of whitish colour, and of firm, hard consistence. Unfortunately the basin containing the matters vomited was emptied before my arrival. Has taken five of the calomel powders.

She is much better. Voice and cry less hoarse than they have been at any time since the commencement of the attack. No stridulous sound whatever. To have a dose of castor oil.

Remained in this condition all day. No return of the paroxysm in the evening.

Wednesday, 16th. Improving; cough still slightly croupy, but begins to be loose; voice and cry more natural; no fever; no dyspnoea, nor stridulous sound whatever; countenance good.

She vomited this morning early, and rejected portions of membrane. To take ten drops of hive syrup every two hours as an expectorant.

Friday, 17th. Continues to improve; slept the greater part of the night, coughing very little; cough still a little hoarse, but has lost entirely the peculiar sound of croup; voice and cry slightly hoarse. To take eight drops of hive syrup three or four times in the course of the day, and to be kept closely confined to the chamber.

The child recovered entirely after a few days.

Remarks.—The above cases are reported as true instances of pseudo-membranous laryngitis, or as it is generally called in this country, true, membranous, inflammatory or creeping croup; in contradistinction to the more common form of disease termed spasmodic or false croup, or more correctly, spasmodic or stridulous laryngitis.

It will be observed that five of the seven cases recovered, and two died. We think none will doubt as to the fact of the two latter having been cases of pseudo-membranous laryngitis. In one, a post-mortem examination revealed the existence of false membranes in the larynx. In the other, the progress of the malady; the condition of the fauces at the commencement, indicating the presence of a diphtheritic angina; and the subsequent extension of the disease into the larynx, giving rise to all the symptoms of confirmed croup, remove all doubt as to its having been pseudo-membranous laryngitis, consecutive to an angina of the same nature.

As to the cases of recovery, the second, third, fifth, sixth, and seventh, the only one admitting of any question, it seems to us, is the second. In all the rest, the violence and dangerous character of the symptoms; the

appearance of the fauces, which in all were covered with fibrinous deposits; the rejection by vomiting of patches of false membranes, or of tenacious phlegm evidently consisting of freshly exuded fibrin; the duration of the cases, which in the seventh, third and fifth was ten, eleven and twelve days, and in the sixth, three weeks; all proclaim them well marked cases of the disease. Though case second did not present either a diphtheritic deposit in the throat, or the evidences of false membrane thrown from the larynx, yet as it presented all the rational symptoms of the disease, as it required a very energetic treatment to effect a cure, and as it lasted six days, we have no hesitation in believing it to have been a case of that kind.

Before passing to the subject of the treatment employed in the above cases, we are desirous of making a few observations upon the divisions made by different authorities, of the laryngeal affections of children. We are prompted to do this, by the hope of attracting the attention of our medical brethren in this country to the necessity of making a correct distinction in their diagnosis of these different affections.

After a careful study of some of the highest authorities on these points, we are induced to believe that the descriptions given by MM. Barthez et Rilliet, in their work on diseases of children, are the most accurate. These gentlemen describe first, pseudo-membranous laryngitis, of which the cases reported in this paper are instances. They next consider spasmodic laryngitis, the same as the stridulous laryngitis of Guersent and Valleix. This disorder is very common throughout the United States, and is the one to which the term croup is familiarly applied. It is the disease which commonly attacks children previously in good health, *suddenly*, during the night; which is generally cured by an emetic; and which seldom lasts more than a few hours, or one or two days. It does not come on slowly and insidiously like pseudo-membranous laryngitis; it is not accompanied with exudation of fibrine, and lastly it is a disease of really little, though apparently of very great danger. It is not the laryngismus stridulus of the English authors, though the two are classed under the same head by Williams, in *Tweedie's Library of Practical Medicine*, and by Dr. Condie in his work on Diseases of Children.

Both MM. Rilliet et Barthez and M. Valleix, are very careful in drawing the distinction between the two diseases, the pseudo-membranous laryngitis or true croup, and spasmodic laryngitis or false croup. Indeed the difference is so marked, that we are surprised it is not made out by all recent writers. Those who fail to make the distinction, seem to think that both diseases are the same in the commencement; that they are characterized by the same pathological features in the early stages, and that after differences depend on fortuitous circumstances of age, of epidemic influence, of treatment, &c.; whereas they are two widely different and distinct diseases, presenting a different array of symptoms, running a different course, and requiring a different treatment; one, so fatal as to have led some to deem

it incurable; the other, very seldom leading to a fatal termination. In one, the chief pathological element is spasm, determined by a very moderate degree of inflammatory affection of the larynx in most cases; in the other, there is violent inflammation of the mucous membrane of the larynx, trachea and even bronchia, with effusion of fibrine and consequent formation of false membranes.

These gentlemen next describe the simple forms of laryngitis, similar to those which occur in adults.

There remains to be considered the purely spasmodic laryngeal disease, called by the English authors laryngismus stridulus, or spasm of the glottis; and by the Germans, thymic asthma or Kopp's asthma. This is not the same, we believe, as Millar's asthma, which answers much more closely to spasmodic croup or laryngitis.

Laryngismus stridulus is certainly entirely different from either pseudo-membranous or spasmodic laryngitis. A few words will explain this difference. Spasm of the glottis, or laryngismus stridulus, is a chronic disease, lasting usually weeks or months. It is not accompanied by fever. The voice and cry are unchanged except at the very moment of the paroxysm. It is attended with general convulsive symptoms, which, slight at the commencement of the case, become more marked and more severe as it progresses. These symptoms alone are sufficient to point out the wide difference between this disease, which is scarcely known in this country or in France, and spasmodic laryngitis, which is one of the most common of the affections of childhood, both in the United States and France.

The only case we have seen, which answered to the description given by European authors of the disease, occurred to us in the year 1844. The patient was a girl, five months of age. We first saw the child on the 28th of March, and continued to visit it up to the 13th of April, when it was so much better, though not entirely well, that we ceased our visits. The first attack occurred the day before we saw it, but as the mother supposed it to be of slight consequence, she did not send for a physician. The child was well-grown, and except a rather too great paleness, looked strong and healthy. It was playful and good-humored, nursed freely, had no fever, and between the paroxysms presented the appearance of perfect health. The paroxysms occurred frequently in the course of the day, sometimes two or three times in an hour, or less frequently. They often attacked the little thing during tranquil sleep. They consisted of a succession of long and difficult inspirations, accompanied with a peculiar whistling or crowing sound, such as might be supposed to depend on the passage of air through a narrow aperture. During the attack, the face of the child assumed an expression of great anxiety; the respiratory muscles contracted with violence, and there seemed to be for the time imminent danger of suffocation. After several seconds or a minute, the shrillness of the sound diminished, the struggles of the child

subsided, and soon the respiration became perfectly natural, and the child seemed well again. The attacks were usually followed by fits of crying, which, however, were easily pacified.

The paroxysms continued to diminish gradually in frequency and violence, until the 13th of April, when they ceased entirely. The treatment consisted simply in careful attention to the general health of the child, and in the frequent use of warm baths and mild nauseants.

The child remained perfectly well, with the exception of a slight attack of cholera infantum, until the following November, seven months after, when the disorder recurred. Several paroxysms occurred between the 12th and 17th of the month, but as they were slight, and unattended by other symptoms of illness, the mother was not alarmed, and paid but little attention to them. On the 17th of the same month, the child was sitting on the floor amusing itself with some playthings. There were no persons in the room, except some young children. They saw the little thing stoop forward suddenly, as though in play, and therefore did not regard it. As it remained in this position longer than usual, however, they went to it, took it up, and found that it was dead. It had perished suddenly, no doubt in one of the paroxysms of spasm. An autopsy was made, but nothing was found to explain the cause of the disease, or the sudden death. The thymus gland extended downwards so as to cover the base of the heart, and conceal entirely the origin of the great vessels.

We would advert very cursorily to another form of spasmodic laryngeal disorder, to which children are subject. We have seen five well-marked cases of this kind. Allusion is made to it by MM. Rilliet and Barthez, at pages 255-6 of their 2d volume.

This is the disorder popularly known in this country by the phrase, "holding-breath spells." We have met with it only during the period of the first dentition. It appears to be the result of a sudden, and generally total closure of the glottis, or else of a spasm of the diaphragm, so that the child ceases for the time to breathe. There is no stridulous sound, nor hoarseness of the cry, nor indeed sound of any kind, for the respiration is for the moment arrested. After a few seconds, or perhaps a minute, in severe cases, the contraction yields, and the child bursts into a loud, full scream, which lasts until it is pacified by soothing treatment, or until it sobs itself to sleep. The attacks recur with variable frequency in different cases. There may be several in the course of a day, or but one, or again they may occur only at intervals of several days. They are produced by various exciting causes, such for instance as fright, pain, or contradiction; when the predisposition is strong they occur whenever the child cries, be the cause of the crying what it may. The predisposing causes seem to be, the nervous temperament, dentition, and anything which tends to produce an anemic state of the blood.

In one case only, of the five that we have met with, did the life of the

child seem to be at all endangered during the paroxysms. This was a boy, who at the commencement of the first dentition had nearly perished of hemorrhage, occurring at intervals for four days, from an incision made by a physician into the upper gum, for the purpose of relieving the tension produced by the advancing teeth. He had frequent attacks of the kind described, from this time (when he was nine months old), until he arrived at the age of twenty months. At the latter age, he had at the termination of two attacks slight spasmodic movements of the limbs, which lasted but a few instants, and were unaccompanied by insensibility or any other dangerous symptom. As these occurred in the month of July, we advised his immediate removal to the country, where he recovered his health entirely.

After these remarks on the different laryngeal affections of children, and their diagnostic characters, we proceed to make some comments on the treatment employed in the cases recorded above.

We have been led to hope, from our experience, that this terrible disease is not necessarily quite so fatal as some persons are disposed to think. We do not wish to give the impression, that the above cases represent the exact mortality that has occurred within our experience. Two fatal cases not reported above, have occurred to us. One was that of a boy, about two years of age, to whom we were called in the month of November, 1844; but, as he was desperately ill when we first saw him, as he had already been ill for several days, as there was no time for the exhibition of proper remedies, since he died in less than thirty-six hours after we saw him, and as we had no notes of the case, we did not attempt to report it at length. The other case was that of a boy, about three years of age, whom we attended in consultation with another physician, in March, 1846. He was treated by depletion, calomel and emetics, but all proved vain. He died in a state of the most distressing asphyxia.

Depletion was used in all the cases. In all but one (case 4th), blood was taken by venesection. In that case, leeching was substituted for venesection. The quantity of blood taken varied in the different cases, according to the age and constitution of the patient, and the nature of the attack. In two of the cases (the 2d and 5th), the venesection was repeated three times, from four to six ounces being taken at each operation. In two cases (the 3d and 7th), a single venesection was employed. In the two remaining cases (the 1st and 6th), a single venesection was performed in each, and afterwards leeches were applied to the throat.

Emetics were used in all the cases. The one employed when full vomiting was desired, was, on all occasions but one, powdered alum, the alumen of the Pharmacopœia. The exception was the 6th case, in which, after alum had been used with full effect, ipecacuanha was given because of the difficult administration of the former, owing to its bulk. Small doses of tartar emetic were used in the same case, and in case 4th,

with a view to its antiphlogistic effect. In three of the other cases, the 2d, 5th, and 7th, small doses of the hive syrup (*Mel. Scillæ Comp.*) were given as an expectorant, after the violence of the disease had subsided.

The principal means employed in addition to depletion and emetics, were calomel and caustic applications to the fauces.

Calomel was used in all the cases but one. This was the 4th, one of the fatal cases. It was given freely in all the other cases. The largest amount given was forty grains, in case 6th; the smallest, eight grains, in case 5th.

Caustic applications to the fauces were used in all the cases, except the 1st and 2d. The one employed was a solution of the nitrate of silver, grs. x.ḡ-j. It was applied by means of a large throat brush two or three times a day.

With the exception of the warm baths, the means just mentioned were those mainly depended upon.

The remedies which appeared to have the most direct and permanent influence upon the disease were calomel and emetics; the former by softening and loosening the membranous formation, the latter by ejecting it after it had been thus softened.

General blood-letting, without exerting so immediate an action upon the symptoms of the disease, we believe to have been eminently useful in preventing the extension of the disease, and in removing or diminishing the disposition to exudation of fibrine, which is undoubtedly the dangerous element in the morbid action.

The emetic we always preferred was the alum. The employment of this remedy as an emetic in croup, was, we believe, first suggested in this city by my father, Dr. C. D. Meigs. In an article on croup published in the *Medical Examiner*, vol. i., 1838, page 414, he says he has been accustomed "to make use of an emetic, which, so far as I can learn, is very little employed, but which, from its certainty, and the speediness of its operation, ought to be more generally admitted to the list of available medicines for this particular case at least. I have been familiar with its effects for more than twenty years, and my confidence in them increases rather than diminishes by time." He adds: "I think that I have never given more than two doses without causing very full vomiting; but I have often given large quantities of antimony, of antimonial wine, and ipecacuanha, without succeeding in exciting the efforts of the stomach."

The useful properties of this substance as an emetic, are its rapidity and certainty of action. It is best given in the state of fine powder, mixed with honey, syrup of any kind, or molasses. The dose is a teaspoonful of the powder, to be mixed with an equal or double the quantity of the vehicle, and repeated in ten, fifteen or twenty minutes, should the first dose fail to produce free emesis. It is seldom necessary to give a second dose. We have known it to fail only in two instances. One was

that of the boy, two years of age, referred to but not reported above. The disease was so far advanced when we first saw him, that nothing had any effect upon him. In the other, it had been used several times with full effect, but at last lost its effect, as had happened in regard to antimony and ipecacuanha also. It was the only remedy used for the production of vomiting in six of the seven cases reported above. In the sixth case, the ipecacuanha was employed, not because the alum was distrusted, or because it had failed, since it had been used successfully at an earlier stage, but because of the inconvenience of giving so large a bulk to the child, who was labouring under violent dyspnœa.

In addition to its advantageous properties of certainty and rapidity of action, it has another, which we cannot but deem one of great importance. This is the fact of its operating without producing exhaustion or prostration, beyond that which always follows the act of vomiting. The remedy itself has no effect, like that possessed in so high a degree by antimony, and to a less extent by ipecacuanha, of causing adynamia of the nervous system, an effect which, in some constitutions, or states of the constitution, or when it has to be exhibited frequently, is, we believe, sometimes attended with injurious or even fatal consequences. We have administered alum in the dose above mentioned, three and four times in the course of a day for several days, without observing dangerous prostration, or any other threatening symptom to follow its exhibition.

We have dwelt at some length upon the employment of alum as an emetic in croup, because we think it a remedy of very considerable importance in the disease. Those who select antimony in consequence of its powerful antiphlogistic properties, will not of course care to substitute for it a remedy which is not thought to have (so far as we know) any other influence upon the disease, than that which results from its operation as an emetic. For our own part, we prefer to use as antiphlogistics, blood-letting and calomel, and think a great desideratum gained, when we have found an emetic, which may be safely resorted to several times a day, for several days, without exhausting or otherwise injuring the constitution by any peculiarity of its own mode of action.

There is another remedy which has been highly recommended by a practitioner of Maine, in severe cases of croup, which we desire to mention.

At a meeting of the College of Physicians of this city, held October 7th, 1845, the secretary read an extract from a letter presented by Dr. Bond, one of the fellows of the college. The letter was addressed by Dr. Hubbard of Hallowell, Maine, to Dr. Bond. In the letter Dr. H. recommends very highly, the use of the turpeth mineral as an emetic in croup. This is the subsulphate, or yellow sulphate of mercury; the hydrarg. sulphas flavus of the United States Pharmacopœia. Dr. Hubbard recommends it on the ground of its promptness and certainty; of its never

producing catharsis, and lastly, of its not being followed by prostration like that occasioned by tartar emetic. He says, "Its emetic operation usually continues from an hour to an hour and a half, accompanied and followed by none of the distressing nausea, prostration and depletion of antimony. . . . From two to three grains may be given to a child two years old, and repeated in ten or fifteen minutes, until emesis is produced. If the first dose fails, the second usually acts as soon as it touches the stomach."

We used the turpeth mineral in one of the fatal cases not recorded above. It was in the case of the child three years of age. Towards the close of the attack, the orthopnœa was intense, and antimony and alum both failed to produce emesis. Believing the only chance of escape for the child in his then condition, to be the operation of an emetic, we recommended a trial of the yellow sulphate of mercury. Three grains were given to him, diffused in syrup. It operated powerfully within a few minutes, and when we saw him about an hour after, the distressing symptoms were very much ameliorated. The improvement did not continue, however. The child died some hours after, worn out by the violence of the attack.

ART. II.—*Observations on the Poisonous Properties of the Sulphate of Quinine.* By WM. O. BALDWIN, M, D., of Montgomery, Ala.

EVERYTHING calculated to throw additional light upon the *modus operandi* of a remedy which occupies such a conspicuous position in the therapeutics of the age, as does the sulphate of quinine, must be received with some degree of interest by the medical profession at large. Under this conviction I propose to narrate some facts and experiments relative to the nature of quinine *as a poison*. Though an unfortunate one, it may yet be stated as a fact, that in our medical periodicals we much oftener meet with reports of cases showing the successful application of particular remedies, or modes of treatment, than such as illustrate their pernicious influence or misapplication. Through this means, however, we have in a few instances been advised of the baneful effects of quinine in producing deafness, amaurosis, hæmaturia, violent gastralgia, sudden prostration, delirium, epilepsy, palsy, &c., and in a few instances *death* is reported to have occurred, under circumstances so obvious as to leave no doubt of its being the result of the poisonous operation of quinine. Yet, these have been so completely obscured by the reports of those individuals who declare their entire conviction of its *harmlessness*, under all circumstances, and when given in almost any quantity, that the former seems to have made but little impression upon the mind of the profession in regard to its dangers. In none of our systematic works do we find the subject

treated of with anything like gravity. In Orfila, and even in Christison's late work on poisons, where the noxious properties of many very simple substances (and among them common *table salt*) are dwelt upon at length, quinine is not mentioned as a poison, nor are any of the preparations of cinchona.

As the basis of these investigations I beg leave to report the following:

Case of Convulsions, Blindness, and Death—the effect of the Sulphate of Quinine.—On the 2d day of July, 1846, I was called to see "Sally-Ann," a little negro girl aged about six years, the property of H. M. Elmore, Esq., living five miles from this place. This is the fifth day of her disease. Mr. E. states that her fever has been higher on alternate days (tertian remit.)—pulse rising to about 160 on the days of the exacerbation of fever, and falling to about 120 on the succeeding days—the exacerbation commencing early in the morning and declining in the latter part of the succeeding night. He has given her some mild cathartics, and in one of her remissions he gave her quinine. This is the day for her exacerbation of fever to take place. Pulse now 130; skin hot and dry; tongue moist and covered with a thick dark fur; abdomen somewhat distended and tender on pressure; complains of pain in the head and thirst. R.—Vene-sect. ad ζ iv or ζ vi; submur. hyd. grs. ii; p. opii gr. $\frac{1}{6}$. M.; to be taken and repeated at intervals of three hours; warm-bath, mustard poultice to abdomen, mucilaginous drinks. Directed Mr. E. to repeat the bleeding if her fever should rise in the course of the day.

3d. Fever again yesterday, pulse rose to 160; bled again. Medicine produced two small, dark, thin evacuations, interspersed with mucus. Pulse this morning 130; condition in other respects about as it was yesterday. R.—Sulph. quin. grs. ii, to be given and repeated every second hour—other prescriptions to be continued.

4th. 8 o'clock A. M. Pulse 132 (did not rise over that yesterday); *countenance anxious; irregular and heavy breathing; extreme restlessness*, constantly rolling her head from side to side, and frequently altering the position of her body with great quickness of motion; had two motions, dark and rather more consistent, containing some mucus and two small round worms—condition in other respects the same.

This is the day for her exacerbation of fever to come on, which heretofore commenced rising about 8 o'clock. I remained with her until 12 o'clock (during which she did not take any more quinine), at which time her condition remained the same, except not quite so restless. Looking upon this restlessness, constant motion of the head, tossing of the body, &c., as an indication that the quinine was exerting an unfavourable influence, I determined to withdraw it, but to do so gradually, and in such a manner as to extend its influence through that day; consequently ordered the same quantity to be given at intervals of four hours, and to be suspended altogether after 4 o'clock in the morning. Supposing I had discovered slight symptoms of pyralism, ordered calomel and opium powders to be discontinued. R.—Mush poultice and mucilaginous drinks.

5th. Pulse 128 to 130. *Exacerbation of fever did not come on yesterday*; last quinine was taken at 4 o'clock this morning. Except a slight abatement of the "*restlessness*," &c., condition pretty much as it has been for the last several mornings; one motion from bowels, same character; no symptoms of pyralism this morning. R.—Calomel and opium resumed in

same doses; to be enveloped in a poultice towards the middle of the day; mucilaginous drinks.

On returning next morning I found her dead. Mr. E. stated that he put her in a poultice as I had directed, and that it had a fine effect: producing a free, warm and general diaphoresis, which lasted three or four hours. On discovering this he concluded she was in a "fine condition" for taking quinine, and soon after (2 o'clock P. M.) gave her grs. iv, and in the course of three hours after grs. iv more. Shortly after he gave her the last dose her skin became dry again, succeeded by restlessness. About 6 o'clock she had a convulsion. After this he noticed that the pupils of *her eyes were dilated*, and soon discovered she was *totally blind*. When asked if she knew her mother, and other persons who were placed before her in a bright light, her eyes would wander about—she apparently endeavouring to fix them on some object—and then she would reply "I can't see them." The *dilatation of the pupils, blindness, restlessness, convulsions, &c.*, continued until 8 o'clock, when she died. The convulsions were described by Mr. E. as being of a most violent character, but notwithstanding she retained in the intervals perfect possession of her mental faculties, and an unusual degree of pertness for children of her age.

I was not prepared to make a thorough post mortem examination, and therefore made a partial one, only of the stomach and bowels. Found considerable vascularity in portions of the small intestines and stomach, the former containing secretions of a yellowish and greenish substance, intimately blended with mucus—no worms. Pupils enormously dilated.

A review of this case leaves no doubt, upon my mind, of the direct agency of the quinine in producing death. The quantity given immediately before death (grs. 8), would not of itself (I am disposed to think) have produced the fatal result, separate from the agency of that which had been given previously, but at the time these last portions were given, it must be remembered that the system was still charged with the quinine to some extent, for up to 4 o'clock that morning it had been regularly introduced into the stomach, at intervals, for nearly two days. The accession of fever which should have taken place on the 4th was prevented. Now it is very sure that the patient either died from the effects of the quinine, or that the paroxysm of fever which had been arrested or suspended on the 4th, came on on the 5th and killed her. The latter could not have been the case, for we find her an hour or two before she commenced taking the quinine (the second time) in a warm, free and diffused perspiration. The most conclusive evidence, however, to my mind, that the quinine *did* kill the patient, is the characteristic train of symptoms which immediately followed its administration, and preceded death: the *extreme restlessness, dilatation of the pupils, blindness and convulsions*. The exacerbating feature of the disease had been broken up, after which there was nothing to forbid the hope of her recovery, and, apart from the effects of the quinine, there was certainly nothing in her condition to account for her death *at that time*.

The following notes of a case I have been permitted to extract from the case-book of a professional friend:

"A man, about 30 years old, habits and constitution good, 'has had a

cold for five or six days.' On the morning of the 25th Oct., 1843, was taken with a chill, the sensation of coldness continuing nearly all day with severe and acute pain in the right side, frequent cough and severe headache.

"26th. Pulse 108, rather soft and moderately full; skin hot; cough frequent; expectoration scant and fluid, slightly tinged with blood; severe headache and great turgidity of veins about forehead; tongue nearly natural; bowels rather costive; thirst; slight dullness on percussion over lower part of right lung, and nearly over the whole lung the natural respiratory murmur is replaced by an irregular undulatory sound, resembling somewhat that produced by the application of a 'sea-shell' to the ear. In the left lung the sounds are healthy. Eyes very much injected; slight delirium. R.—Calomel grs. v; p. opii gr. $\frac{1}{4}$. M. Repeat every third hour. Mucilaginous drinks. Noon.—Pulse 115; has taken three pills; expectoration of a reddish orange; otherwise same. R.—Antim. tart. grs. ii; aq. pura \bar{z} iv M. \bar{z} ss every hour. \bar{z} iv of blood from frontal vein.

"*Vesp.*—Pulse 120, full and soft; respiration 36; dullness extending upwards; no sound present over dull part except a slight friction sound, more audible during inspiration; over sonorous part of lung on applying stethoscope only the undulatory sound heard, respiratory murmur being absent; cough frequent and attended with great pain; expectoration same; tongue moist; collection of sordes on upper teeth; breath fetid; quite delirious, talking incoherently, and is anxious to get up and leave the bed; complains much of head and side. Took four successive doses of medicine, but vomited up a large quantity of bile just before the time to take the last dose. R.—Continue antimonial every hour. 8 P. M. Pulse 104; respiration 28, sweating very freely; says he feels easier since he had a large, thin, yellow operation, about half an hour ago.

"10 P. M. Sleeps apparently easy for a few minutes and then awakes and talks deliriously. Pulse 98, full and soft; respiration 26; tongue rather disposed to be dry on dorsum; skin moist; complains of sharp pains darting through head; side easier. R.—Continue antimonial every third hour; quin. grs. xii at 11 o'clock, grs. viii at 2 o'clock, and grs. viii at 5 o'clock in the morning.

"27th. Pulse 104, more firm; respiration 28; skin became dry at quarter after 10 o'clock last night, and so continues; continued to have short naps, between which he would be awake and delirious; had three thin dark evacuations—after the second he took fifteen drops tr. opii, same quantity after third. He missed one dose quinine (8 grs.) last night; complains much of the same darting pains through head and side; took about 12 oz. blood, from which he experienced no immediate relief of pain; pulse softened a little under it, the frequency remaining the same; no nausea; a little deaf; cough suppressed. R.—(Now 7 o'clock, take quin. grs. viii.) Antimonial mixture ($\frac{1}{4}$ gr.) every hour; tr. opii gtt. x after each evacuation.

"Noon. Pulse 100, softer; respiration same; skin moist; one more evacuation; sleeps steadily now, except when he is awakened to take medicine. R.—Continue same.

"2 P. M. Asleep, and sleeps soundly nearly all the time, except when awakened to take medicine; pulse 100, full; respiration 28; skin hot and dry; tongue moist and white; cough frequent; expectoration scant, opaque and without blood; slightly deaf; nausea. R.—Continue same.

"*Vesp.* 5 P. M. Is scarcely at all delirious; forehead moist; thirst; complains much of weakness, emptiness and nausea; pulse 98; respiration 24; sleeps well; has been up several times, but no evacuation. R.—Give quin. grs. viii; continue antimonial.

"8 P. M. Pulse 98; respiration 20; otherwise same. R.—Quin. grs. 36; calomel grs. xii; tart. emetic grs. iss; p. opii gr. i. M. In pls. No. xviii, div.; three every second hour. Continue antimonial, gum-water, &c.

"28th. Pulse 85; respiration 20; one evacuation; less dullness; expectoration easy and free, opaque and yellowish; tongue moist and white. R.—Continue same, leaving tart. emetic out of pills, and instead R. antim. tart. grs. iii; water $\bar{\text{z}}$ iv. M. $\bar{\text{z}}$ ss every hour.

"Noon. Pulse 98; respiration 26; skin hot; expectoration more difficult and scant; has just thrown up some bile; considerable nausea; an orange coloured matter deposited on the teeth, at the junction between them and the gums. R.—Continue same, omitting one dose of the antimonial solution.

"3 P. M. Called to see him. He had a little while before been taken with a *jerking motion* of the whole body, which lasted several minutes, and immediately after his *vision was so imperfect* that he could scarcely distinguish anything. When I arrived, whole surface hot; respiration irregular, from 11 to 20; pulse 100, full and rather firm; temporal veins turgid, and temporal arteries throbbing; *great restlessness*, anxiety and alarm; thirst increased; tongue more dry, white and rough; *pupils dilated*; he dozes two or three minutes at a time, then starts up breathing more quickly and audibly; cough frequent and dry; respiratory murmur heard over greater extent of lung. The convulsive movements of body came on every ten or twelve minutes, sometimes apparently of whole body, at others confined to the arms; in the latter case, by grasping the arms with moderate firmness, or pressing them against the bed, the motions could be arrested immediately. He was not insensible during the convulsions, nor was there foaming at the mouth, but occasionally a staring and vacant look, and rolling up of the eyes. By half after 4 o'clock *he was completely blind*. On drawing ($4\frac{1}{2}$ o'clock) an ounce of blood, from a small orifice, it jetted out with force and was the colour of arterial blood, and much buffed when cold. From $4\frac{1}{2}$ o'clock till 6 o'clock he had but one slight convulsion. After taking one oz. of blood I thought the pulse softened, but regained its same character by the time I had tied the arm.

"It is unnecessary to pursue the subsequent details of the case. The man recovered after a protracted and serious illness, and has regained a useful degree of vision. His vision began to improve about 24 hours after, though it is still impaired up to this time."

The agency of the quinine here, in producing *blindness, convulsions, &c.*, is certainly most manifest. It was commenced at 5 o'clock on the evening of the 27th and continued until $1\frac{1}{2}$ o'clock P. M. of the 28th, being 20 hours and a half from the first dose to the last, during which time 68 grains were introduced into the system, the pernicious influence of which was visible at 3 o'clock, one hour and a half from the last dose. The *restlessness, tremors, slow and irregular breathing, dilatation of the pupils, blindness and convulsions*, all supervening at the time they did, bespeak most pointedly and conclusively the poisonous operation of the quinine.

The above case is reported for the marked resemblance which it bears to the first, and though in it death was not the result, it will be seen that the symptoms which succeeded the administration of the quinine in both;

bore a striking analogy to each other. In other accidents of the kind which have been reported by authors, the symptoms do not differ in any prominent particular. The reader is especially referred to the perusal of an article in the 26th vol. of the *Dictionnaire de Médecine*, on "*Quinquina*," by Guersent, where several cases of the kind are recorded as having occurred under the observation of M. Trousseau, Dr. Giacometti and others.

For the purpose of determining as precisely as possible the *toxicological effects* of the sulphate of quinine, I have, during the last summer and fall, performed numerous experiments upon dogs. I have seen notices of experiments of the kind having been performed by M. Melier upon dogs, and by Professor Giacomini (of the University of Padua) on rabbits, but so far as I am aware of, nothing of the kind has been done in our own country.

By way of anticipating or forestalling any objections which may be made to these experiments, as illustrative or typical of the effects of the same substance upon the constitution of man, it would be well to premise them by a quotation from a very popular author on *toxicology*:

"A good deal of obscurity still hangs over the relative effects of poisons on man and the lower order of animals. There are two species, however, whose mode of life in respect to food closely resembles our own, and which, according to innumerable experiments by Orfila, are affected by almost *all poisons exactly in the same way as ourselves*, namely, the cat and the dog, but *particularly the latter*." And after going on to mention some difference in the action of certain substances, the same author observes again: "Yet the differences alluded to are probably not greater than exist between *man and man* in regard to the same substances; and therefore it may be assumed, that, on the whole, the effects of poisons on man differ little from those produced on the dog and cat." (*Christison on Poisons*, p. 63.)

A comparison of the poisonous effects of quinine, as exhibited in the two preceding cases and the following experiments, I can but think, will go far towards proving that the toxical effects, *of this substance at least*, upon the constitution of man and that of the dog, if not identically the same, do not differ materially.

These experiments were performed in the presence of different members of the faculty, and for valuable aid and assistance I am especially indebted to the kindness of Drs. Boling, Sims and McLester, of this place. I will not impose upon the reader a minute detail of each individual experiment, but will endeavour to condense the general results as concisely as possible.

Symptoms which followed the ingestion of large doses of quinine into the stomachs of dogs:—*restlessness* generally preceded all other symptoms, as was indicated by the animal changing its position often, and constantly moving from place to place. *Vomiting*, or, in those cases where the esophagus was tied, efforts to vomit succeeded. *Purging* was noticed occasionally, but in no instance except where the medicine was taken by

the stomach. Then came on *muscular agitation*, or *tremulous movements* of the body and extremities, with a *constant motion of the head*, resembling somewhat *paralysis agitans*. In attempting to walk, the dog would totter from side to side and fall, or if he maintained his feet would walk in a direction different from the one which he seemed to desire. When under the full operation of the poison, the power of locomotion, or even the power of standing in the erect position was lost altogether, the extremities apparently *completely paralyzed*. This state was accompanied with more or less *excitement of the vascular system*; the pulse increasing in frequency and rising from 110 to 160, and in one instance even as high as 240 per minute. *Great oppression of the breathing* was present and sometimes *frothing at the mouth*. The *dyspnœa* in all instances was excessive, sometimes panting, at others *slow and laboured*, resembling in a most striking manner an acute attack of asthma; countenance expressive of great distress and anxiety. 'The *pupils of the eyes were invariably dilated*, and generally to an enormous extent, leaving but a small ring of the iris perceptible, and *vision*, as well as could be judged, *was entirely lost*. *Convulsions* were observed in every case (except one), which was watched to its termination, where the dose given was sufficient to produce death, and in one or two instances where the medicine failed to produce this result. *Furious delirium* was present in one case, as was manifested by the dog barking and biting at everything about him. Sometimes a *profound coma* would ensue, accompanied with slight *muscular agitation*, *slow and heavy breathing*, terminating in death in a very few minutes after the poison had been taken, and in a few instances the subject seemed as if stunned by some sudden and powerful blow or violent fit of apoplexy. This latter effect, however, was only observed when it was given to young dogs (half grown and under) through the jugular vein or peritoneum. Its effects upon puppies seemed to be *proportionately* much greater than upon dogs fully grown.

The time required to produce death varied very greatly with the quantity given and the age of the subject, as well as the mode and manner of its administration, and in some instances it varied considerably when the dose, mode, and all other circumstances of its administration were supposed to be equal; for whilst in some instances fifteen or twenty grains produced the uniform and peculiar train of toxical symptoms, succeeded by death in a very short time; in other instances it required these quantities doubled and repeated until 120 grains had been taken, and a much longer time to produce the same results. This fact is in accordance with my experience relative to its remedial action upon the human subject, showing that it is governed more, perhaps, in its *modus operandi* by inherent idiosyncrasies, or created predispositions, than any other remedy. The modes of giving it adopted, were by the stomach, the cavity of the abdomen, and by the jugular vein. When given by the stomach it produced vomiting, and was

thrown back generally before a sufficient amount to produce death could be absorbed. By dissolving and largely diluting it with water, a sufficient quantity was absorbed to produce death, in this manner, in one instance. In almost all of the experiments with it by the stomach, however, the œsophagus was ligatured. When dissolved and given by the *stomach* its first effects were observable in about twenty minutes, sometimes shorter or longer, and death resulted in from one to thirty-six hours, usually in four or six. An empty stomach facilitated its operation greatly. When injected into the *peritoneum* in full doses (40 grs.) its effects were appreciable in from four to six minutes, and death occurred in from thirteen to thirty minutes. When injected into the *jugular vein* (in giving it by this mode great care was taken to prevent the admission of air), its first effects were manifest in a space of time so short as to be almost inappreciable; not more than a few seconds after the nozzle of the syringe was withdrawn, and death occurred in one or two minutes. In all instances, except one, the quinine was dissolved in water by the addition of sulphuric or other acid in quantities barely sufficient for this purpose.*

When the experiments went far enough to produce amaurosis, short of death, the vision was regained after a time. In one instance the dog remained *totally blind* for two weeks, and afterwards regained his vision slowly. This is also a feature in the second case reported in the commencement of this article. The man regained a very useful degree of vision after a short time. From these, as well as other cases of the kind reported it would seem that amaurosis from this cause is not likely to be permanent.

Though it operated much more promptly when injected into a vein or the peritoneum, yet I did not observe that it operated with more power or force: that is, I did not discover that a given quantity administered in this way would produce death more certainly than when given on an *empty* stomach. 28 grains injected into the cavity of the abdomen in one instance, and 20 grains injected into the jugular vein in another, failed to produce death, yet these quantities *did* produce death in other instances, as well when given by the *stomach*, as by these modes.

The *post-mortem* appearances were equally uniform with the symptoms before death. The most prominent and characteristic appearances were the *dark, fluid* and *defibrinated* condition of the *blood*, and the *congested* state of the parenchyma of the *lungs*, resembling very much *red hepatization*. The vessels of the membranes of the brain were engorged, so also were the liver and kidneys in a few instances. The stomach and bowels were vascular and highly injected in patches. The membranes of the spinal

* In one instance where it was made into a bolus and enveloped in a slice of bacon and introduced into the stomach, vomiting occurred in twenty minutes, and a large portion of the medicine returned. Except that it did not produce death, its effects did not differ in this from those observed in other instances where it was dissolved and given by the stomach.

cord were more or less vascular and, in one instance, a semi-fluid coagulum of blood was found in the upper half of the theca vertebralis. This was probably owing to the subject being very young, and the convulsions being much more violent and frequent than in any other instance.

Thus it seems clear that quinine is a *poison*, and one which may be made *directly fatal to life*, and if these experiments upon the dog, *in themselves*, are not conclusive of that fact, which the concurrent testimony of toxicologists would justify us in believing, they at least become so when it is remembered that the symptoms which its exhibition gave rise to, are not only strongly corroborated by, but were almost identically the same with those observed in the human subject, in the few instances where poisoning from this substance is known to have been produced. There is not a symptom noticed in these experiments which has not, at one time or other, been observed in its operation upon the human subject, and the two cases of poisoning in the human subject reported in the commencement of this article, where the same striking and peculiar assemblage of symptoms which followed its administration, were so completely identical with those observed in the dog, most clearly establish the fact that the manifestations of its *poisonous operation*, at least upon the dog, are identical with those observed in the human subject, or at any rate do not differ more than they do in different instances on "man and man."

Its operation as a poison, as well as a remedy, is certainly peculiar, and it seems difficult to assign it to any particular class of poisons, differing in some respects from all of them. It appears to resemble in its action, more closely than any other, those of the "*second class*" of Orfila, or the class of "*narcotic poisons*." It does not seem to possess any hypnotic properties; in this it differs from most of the substances included under this head. I do not mean to touch the much agitated question of the mode of its remedial operation, but desire to speak of its poisonous action only; and, on this head will only add, farther, that its operation seems to be principally upon the nervous system, as is clearly demonstrated in the derangement of the senses of vision and hearing, and respiratory functions, as also in the general muscular agitation, convulsions, &c. As it has been detected in the urine there can be no doubt but that it enters and mixes with the circulating masses of the body, and through this means exerts a *direct* influence upon the nervous system, which, as we have seen, is *eminently* excitant when given in quantities calculated to destroy life.

As yet I am aware of no *antidote* which will, with any certainty, negative the injurious effects of quinine. I have given the sulphate of morphine to patients rendered very restless and uncomfortable from a high state of *quininism* having been induced, but cannot speak with any confidence as to its effects. I have not known it to produce an immediate alteration in the state of the patient's feelings, but have witnessed an improvement in the course of a few hours, and in no case do I remember to have seen the

patient get worse under such circumstances; but how far this may have been dependent upon the suspension, or partial withdrawal of the quinine (which generally takes place under such circumstances), and how far upon the morphine, it is difficult to say. This, however, at best, can only be a partial antidote, palliating the effects of the poison, and of course can in no wise alter its medicinal, poisonous or chemical qualities or constitution. And, did we possess an agent of the kind, whose properties would render speedily inert those of the quinine, it would avail us but little; for, it is not a substance of that character which would be likely to be administered with the wilful intention of destroying life, and an antidote will, generally, only be wanted when the physician finds he *has pushed his remedy too far*, and its injurious effects are already being manifested, and, in that case, the medicine has already passed the limits where an agent of the kind could reach it.

As it is altogether likely that quinine is absorbed, and enters into combination with the circulating fluids of the body, and in all probability produces its impression upon the system in this way, its operation is thus a *remote* one, and the means adopted to prevent or relieve its injurious effects should be such as are found available in combatting the poisonous impressions of other substances, supposed to act through the same medium. Thus, if symptoms arise during the administration of quinine calculated to create alarm, or to excite suspicions of its poisonous influence, it would be well to premise all treatment by the administration of a full and prompt emetic, in order to free the stomach of any remaining portions, which may not have been absorbed. The next step, then, should be to eliminate as rapidly as possible, that portion which has reached and mingles with the fluids of the body, and for this purpose, it has been recommended in other instances of an analogous character, to *augment the natural secretions of the body*.

This mode of treatment, which is based altogether upon the inference that the poison is absorbed and enters the circulation, and recommended as applicable or efficient only to poisoning from substances deemed to act in this way, seems to be a most reasonable one. I have certainly never witnessed or heard of any injurious, or seriously unpleasant effects from quinine, when the functions of the skin and kidneys were being actively performed during its influence—especially the former. For this purpose, the copious administration of warm diluent drinks, and hot pediluvia, or warm bath, would seem advisable. When the state of the pulse is such as to justify it, blood-letting, it would seem, is another channel through which the quinine may be abstracted from the system, not only by freeing the system of so much as may be contained in the quantity of blood actually drawn, but as assisting also in promoting the secretions of the skin and kidneys.

I am of opinion, that its poisonous effects may generally if not always

be avoided by proper attention to the mode of its administration. A very common mode of administering it, and one very much insisted upon by patients generally, on account of its disagreeable taste in any other way, is in the form of pills. And, it is a practice with apothecaries, and with physicians who are in the habit of dispensing their own medicines, to keep a quantity of pills constantly on hand. These when made from a mass, formed by the addition of gum arabic, or common paste, get very hard before they are used, and when given under such circumstances, I have known them to pass through the bowels *entirely undissolved*. And, when combined with substances calculated to keep them soft, or even when prepared as administered, they may, and no doubt do occasionally become entangled or enveloped in flakes of mucus or other contents of the stomach and bowels, and thus pass off undissolved, and without effect, or they may meet with some obstruction in the bowels, and be *retained*. When this is the case—that the medicine is not dissolved, or absorbed regularly, nor yet does not escape from the bowels, from some cause or other, and still being introduced into the system at regular intervals—a large quantity in this way may collect, until suddenly meeting with a solvent, (as first supposed by Briquet,) its whole force is spent upon the system at once, and it thus becomes the cause of serious mischief, when, if the same quantity had been given in such a way as to insure its timely absorption, such a result would not have happened. Of all the forms of giving it that of the pill seems to me to be the most decidedly objectionable, and should never be adopted in cases of much importance, where it can be avoided. Another very common mode of giving it is by suspending it in syrup, mucilage or water. This is certainly less objectionable than that of the pill, though not equal to that of the *solution*, made by the addition of some acid in quantities barely sufficient to dissolve it. I prefer sulphuric acid to any other. This mode of giving it has been recommended by Briquet, on account of its safety. In my estimation, it possesses a most decided preference over every other mode of administering it, and is the only one from which we can with certainty expect the timely and full effect of the medicine.

When the stomach is in a condition to bear it, its absorption and activity can be greatly facilitated by *largely diluting* it with warm water. When dissolved and diluted in this way, even when given in what may be termed “heroic doses,” provided the quantity to be taken is divided and given at intervals of one, two or three hours, its deleterious effects may always be avoided *and the remedy persisted in with safety* in the absence of any manifestation of its influence, which we should never feel safe in doing when giving the “insoluble de sulphate,” whether in the form of pills or powders; for, in the former case we will always be advised of its unfavourable influence early enough for a timely withdrawal or modification of the dose. When given in this way, a given quantity seems to produce a greater

effect and in a much shorter time, than even a larger quantity when prescribed in either of the other forms; so that besides being a much safer mode it is a more economical one, both as regards time and medicine; and, the reason seems entirely obvious, for by dissolving and diluting it largely in this way, besides being *dissolved ready for the absorbents*, it is brought in contact with a much larger absorbing surface, and many particles which otherwise might lodge about the contents of the alimentary canal and thus pass off with them, in a state of solution would readily be taken up and appropriated by these vessels.

This mode of giving quinine cannot be urged too strongly, for besides being a *saving* of a valuable and costly drug, and a preventive of its poisonous effects, it will be found of great assistance in prescribing it generally. In cases requiring much delicacy and discrimination in their management, and where the propriety of the prescription is a matter of debate with the physician himself, and he wishes to be made sensible of the effect of the first dose of his remedy, in order to determine upon its continuance, it becomes a matter of great moment that the medicine should be administered in that form in which it will be most certainly and speedily appropriated by the system, and its operation made manifest to the physician. Dr. Holmes, in the number of this Journal for October, 1846, states that he is in the habit of giving quinine eighteen hours before he desires its effects. My experience with it leads to widely different conclusions. I have certainly witnessed a most sensible effect from a single dose one hour after it was given, and have prevented the recurrence of a most malignant form of chill by giving 22 grains diluted with $\frac{5}{8}$ viii of water one hour and a half before its expected invasion; and, in one instance, in the experiments on dogs, where 30 grains of quinine were dissolved and given to a half grown puppy, on an empty stomach, efforts to vomit and convulsions occurred in six minutes and death resulted in fifty-eight minutes after the medicine was received into the stomach. This may be thought somewhat extravagant, yet it falls far, *very far*, short of the statements of M. Piorry relative to the rapidity of the action of quinine upon the human subject.

Experience has not yet defined the limits of the application of quinine to morbid action, nor has it brought about any settled opinion of its *modus operandi*. It has been prescribed in various and opposite forms of disease, nor yet is there wanting evidence of its value in each. Whilst by some it is vaunted as a contra-stimulant, sedative and antiphlogistic, by others it is employed purely for its excitant and stimulant properties. There are others again who view it as indicated in all morbid action exhibiting periodicity, or marked exacerbations and remissions among its features, and as antidotal, or opposed in its action, to malarial poison; and, still, there are others who laud its powers in controlling diseases which are neither marked by periodicity or supposed to depend upon the influence of malaria. In all this there seems to be something as incomprehensible as the mysterious

action of the remedy itself. I allude to this subject not for the purpose of offering any *views* in relation to the mode of its remedial operation, but desire to mention in connection with it, a fact, which seems to me to possess a degree of interest. Quinine *has been given* in inflammatory affections of the brain, and with reputed success, yet if there is any disease or complication of disease where the enthusiast would hesitate to employ his favourite remedy, or which is almost universally regarded as contra-indicating the use of quinine, it seems to be that of meningitis, more especially when it is not attended with notable remissions. During the past summer I treated two of the worst cases of this kind which I remember to have ever seen recover, in which the value of quinine was most decidedly proved.

The first case was one supervening upon a commencing mild tertian intermittent fever which had been a week standing, without treatment (until the cerebral symptoms came on), except a dose of calomel, which had produced severe hypercatharsis. The quinine exerted, in this instance, a most happy influence upon the disease, by keeping in subjection the vascular excitement, as was evidently shown by attempts to withdraw it on three different occasions, at which times the pulse *always* rose in frequency, and with this state came on an aggravation of all the other symptoms. The second case was that of Capt. R. Elmore, who had gone to Mexico in command of a volunteer company some months previous, and returned from the campaign much debilitated and worn down from the effects of the climate and an unsuitable diet, which had produced and kept up an obstinate enteritis. Fever supervened a few days before his arrival here, and continued up to the time when I first saw him (Aug. 22d), in a slightly remittent quotidian form. I will not enter into minute details of the case, but simply remark, that in a few days a most violent and aggravated meningitis supervened, which seemed (as in the other case) to be, rather a metastasis of the disease than a complication. In this, as in the first case, it was attempted to withdraw the quinine, but with the same result, and in both instances it was found necessary to continue it five or six days after the pulse, skin, &c., had got into a perfectly natural condition, and almost the only evidence of remaining disease was the picking of the bed clothes, delirium, &c.

Quinine was not the only remedy resorted to in either of these cases, but its agency was so very notable in controlling the arterial action that it is not likely that a cure in either could have been effected without it; circumstances in both cases contra-indicating the use of the lancet and other depletory means. In the first case there was no intermission or remission after the meningitis was developed, and it was solely from the supposition of its miasmatic origin and *commencing* periodicity that the quinine was ventured upon.

Both these patients had been exposed to miasmatic influence, and it is difficult to say, in them, as in all the phlegmasiæ, how far the inflammatory action is modified by the malarial taint, and what is the nature of that

modification. There must certainly be some cause of the kind, of the precise nature of which we are still ignorant, to account for the success of the different modes of treatment adopted for their cure in different localities. Since the publication of an article in the *American Journal of the Medical Sciences*, for July, 1844, by William M. Boling, M. D., of Montgomery, Alabama, on the use of quinine in the inflammatory affections of malarious districts, to whom seems to be due the credit of having been the first, in this country, to give a definite direction to this subject, the opinion seems to have gained largely, and the attested experience of many proves it to be not without great foundation. But, notwithstanding my own experience coincides with that of his and others, who have since written on this subject, evidences too palpable to be denied, and gathered from experience with it as a remedy, prove to me, that it is occasionally a *stimulant*; (these experiments go far in confirmation of that fact, at least upon the healthy economy;) and without attempting to offer any explanation for the apparent conflict of the two statements, I will simply repeat that I have seen it on the contrary, have, on innumerable occasions, a most decided and unmistakable *contra-stimulant* effect.

In a practice of nearly ten years in the south, the greater part of that time I have employed the sulphate of quinine, as a principal remedial agent, not only in *southern fevers*, but in *southern diseases* generally. Accustomed as I have been to witness the most satisfactory results from its exhibition, and familiarized as I *thought* I was with the minutest impression which it was capable of making upon the animal economy, I was prepared to believe every report in its favour, and had almost fallen into what I fear is becoming to be a popular error—that, “if it does no good, it will do no harm.” I say this, much by way of showing that I entertained no prejudice to it as a remedy, or anxiety, or even willingness, that it should be found to possess properties which might tend somewhat to circumscribe its useful application. On the contrary, I entertained a fondness for it, not equalled by my attachment to any other remedy. And, though occasionally my enthusiasm in regard to its virtues was somewhat abated, and my confidence in its inodorousness was somewhat equivocal, as it failed to produce the results anticipated, or as some unlooked-for symptoms were developed under its administration and influence, soon farther experience would restore my former admiration of its sanative powers, and dispel all fears of the probability of its having exerted an injurious influence: attributing its failure to meet the indications which it was designed to fulfil to negligence in its administration on the part of the nurse, and the unlooked-for symptoms which occurred under its operation as an awkward or anomalous manifestation of the disease itself.

Notwithstanding this acknowledged partiality for it, I have never administered it in the enormous doses prescribed by those who boast of

having given their thirty grains repeated every half hour until 240 grains were introduced into the system, or their several ounces in the treatment of one case of fever. I have very rarely given more than ten grains at a single dose. My usual mode having been to give from four to six grains, and repeat at intervals of two, three, or four hours, until 24 or 36 grains had been introduced into the system (in adults). Occasionally I have given it in larger doses, but these cases have been extremely rare, believing that the quantities specified above, given in one intermission or remission at the proper periods, and aided by suitable auxiliaries, could accomplish, ordinarily, all that the remedy was capable of, and these enormous doses, to say the least of them, unnecessary. Sometimes, owing to want of time, I have given from 20 to 24 grains at one dose, but in such cases have never repeated it in the same dose.

Second to none other, quinine must ever hold the first rank in our materia medica, in the treatment of southern diseases. I am accustomed to witness its peculiar and almost wonderful influence in arresting certain forms of diseases, but yet that it has gone *far* beyond its proper bounds, and is now being used too recklessly and indiscriminately, I feel most fully persuaded, and that it may be directly and fatally poisonous I am entirely convinced. Yet I doubt not many an enthusiast of the "Dr. Bazire" order will smile indignantly at thus seeing such properties attributed to his favourite and "harmless" remedy. To show how completely the world has run riot upon this subject, we quote the following remarks by Dr. Dickson in an article in the *Southern Journ. of Med.* (vol. i., No. 1):—

"A medical friend in Alabama assures us that he had administered *thirty grains* of the *solution* of quinine *every hour*, for *seventeen successive* hours; and we have heard authentically, of a western physician, who emptied into the stomach of a patient labouring under bilious remittent, *an ounce bottle* of s. quinine *in one night*. From thirty to fifty grains are now spoken of as not unfamiliar doses, and even 100 grains are occasionally given at once, and, we are assured, both with safety and striking success. It is in France, however, that the largest amounts of this salt have been employed. Guersent and Reveillon speak of a Dr. Bazire, as having been remarkable for his enthusiastic and exclusive confidence in quinine as a remedy for the violent and pernicious intermittents of the department in which he practiced. Madame Bazire being seized with the prevailing malaria fever, took from him "in a very short space of time," 240 grains (16 grammes) of s. quinine. Soon after, the symptoms increasing, he gave her at one dose 375 grains, (25 grammes,) more than three-fourths of an ounce. At this juncture, fortunately for her, he fell sick, and the care of her devolved on other hands. He hastened to administer to himself, by the mouth and by the rectum, 900 grains of the sulphate of quinine, (60 grammes,) nearly *two ounces*, in a very short space of time; and still 'further took during the space of eight or nine days, *five ounces*.' He died a martyr to his reckless and implicit reliance on the drug; and she recovered imperfectly, having been for a long time

both deaf and blind, the senses both of sight and hearing still remaining feeble."

In the same article, Dr. Dickson, although in speaking of the experiments of Melier, and in other places (in the article just referred to) expresses his fears of too large or "misapplied" doses of this drug becoming "dangerous and destructive," and is too cautious and prudent to give these heroic doses himself, he yet says, "But Madame Bazire took a dose of 375 grains, with something less than fatal effect; an experiment not likely to be repeated by any practitioner in his senses. *There seems, then, to be no risk of mortal error in regard to mere quantity, or next to none.*" How far Madame Bazire was indebted for her lucky escape to the fortunate rejection of the medicine by the stomach, or how much of the alkaloid was rendered inert by the want of a solvent, or how far its action was modified by the engrossing nature and extent of the preoccupying morbid action which may have been present in the system at the time, we are only left to conjecture. We are not told either, how much of this quantity was given by the rectum, which would render its action less powerful. This, however, seems to have been a favourite mode of giving it with Dr. Bazire, and indeed one might suppose an ordinary *stomach* scarcely capacious enough to receive his enormous doses. But, all this as it may be, we do know that other unfortunate individuals, to whom, perhaps, the fates were less propitious than to Madame Bazire, have fallen victims to infinitely smaller doses. M. Briquet reports two fatal cases, in one of which death occurred after a "comparatively small quantity of quinine" had been taken, in the other about 100 grains *given during the space of two days*, and in another case which occurred in the practice of M. Recamier death occurred after the administration of near ʒij in doses of five grains repeated every hour.

In the case of death which occurred in my practice, and which is detailed at length in the commencement of this article, it is difficult to say how much of the quinine was engaged in bringing about this result. It had been given regularly throughout two days, on the first two grains every second hour, and on the second day two grains every fourth hour, and then four grains given and repeated in three hours, nine hours after it had been suspended altogether. In this case the patient was *very young*, only six years old.

From all that I can gather I am disposed to think from fifty to eighty grains of a pure article of quinine, given in solution at one dose, will produce death nine times out of ten, in healthy adults, and occasionally even smaller quantities. How far its operation may be modified by morbid action is a matter for consideration at the bed side.

I will not accuse any member of the profession of a want of common honesty in not reporting the fatal cases from the poisonous effects of quinine, which may have occurred under his observation, but all the circumstances constrain me to believe that many results of the kind have occurred

of which the profession has never been advised, and that it has often been the cause of injury and even death, when its agency has not been recognized, especially in the hands of those who were prepared to witness only its salutary operation. A fatal case is reported in a late number of one of our medical periodicals as descriptive of a form of *congestive fever*, which it is alleged the quinine *failed to cure*, but which to my mind *it most clearly produced*. The valuable paper by Professor S. H. Dickson, so often referred to here (*Southern Journal of Medicine and Pharmacy*), contains some valuable hints touching this subject. In one paragraph he says, "look for its injurious operation upon the human system, as displayed in a set of phenomena closely resembling the series of symptoms which characterize the very class of fevers in which it is most clearly indicated," &c. And, when it is said of the unfortunate Dr. Bazire, that "il voyait avec effroi la maladie triomphante, et la puissance de son remède, qu'il croyait infaillible, trop souvent inefficace," who can doubt, after knowing the doses in which he employed it, that this "power of his remedy" *produced* the very state of things which he blindly persisted in believing it would relieve if only given in sufficient quantities, until, with this wild, though honest conviction, he doubled for himself the already fatal dose. Perhaps in other places, as well as in Martainville,* we would have fewer cases of "*malignant fevers*" if quinine was used with more moderation.

Under the impression that quinine is a poison, and one capable of producing death, when given in over doses, and that it is frequently *prescribed* now-a-days in quantities calculated to produce this result, and knowing that it is not regarded by a large portion of the profession, in the same light, I am induced to offer these observations and reflections in regard to it. Not with the view or desire, however, of lessening its judicious employment; for, under a careful and proper administration of it, I know of no single remedy half so valuable to the practitioner of medicine as that of quinine, but, like all other remedies capable of effecting much good, it may at the same time be made the instrument of incalculable mischief. And, if this article should serve to abate the boldness, not to say criminal recklessness of one "Dr. Bazire," I shall feel that I am amply repaid for the time and trouble its preparation has cost me.

Being on the subject of quinine I hope will be a sufficient apology for offering from my case book the following notes:

Exhilarating effects of the Sulphate of Quinine.—L. A., aged about 32 years, book-keeper, of temperate habits and good constitution, was attacked Oct. 2d, 1843, with remittent fever, of quotidian type; exacerbations coming on in the afternoon and declining in the latter part of the night. I made a prescription for him on the second, and on the third was sent for to visit him at his room, his paroxysm having come on that day with more violence than on the second, and notwithstanding the administration of

* Dr. Bazire's residence.

mercurial cathartics and quinine; it came on again on the fourth with still more violence than on the third.

Feeling somewhat disappointed at the failure in the medicine to arrest the paroxysms of the previous days, and fearing that it had not been administered strictly according to directions, as the nurse was not a very constant one, I determined to see as much of the medicine given on the following (the fifth) as possible. I ordered, R.—Sulph. quin. grs. xxxvi; ext. tarax. q. s. M. In pulv. no. xii div.; and saw the first dose (two pills) administered at 6 o'clock A. M. (fifth), and directed him to take two more of the pills at 8 o'clock, intending to visit him before the time for taking the third dose. I accordingly made my next visit just before 10 o'clock, and on taking up the box which had contained the pills, found it empty, the patient telling me at the same time that he had taken *all* of the pills at 8 o'clock.

From having before been taciturn and anxious about his situation he was then garrulous and seemed to be in a fine flow of spirits: laughed at the mistake he had made, and said, he supposed, "if a little would do some good, a heap would do more." The only perceptible effect of the medicine at that time was a slight increase in the frequency of his pulse, and a very decided *exhilarating* effect upon his mind. I left him without another prescription, intending to see him as often as I could conveniently and watch the effect of the medicine, but did not feel much concerned about any dangerous influence which it might exert, as I had been in the habit of giving large doses of quinine without ever having *attributed* any decidedly injurious effects to its operation, though I never had given it in such large doses and in so short a time, as it had been taken in, in this instance.

Having some calls to make in the country, I did not see him again until 1 o'clock, P. M., when I found several friends with him, who told me he had been entertaining them for several hours with his extravagant conceptions. He was in a fine humour, seemed most generously disposed, and anxious to see his friends in the room comfortable, completely monopolized the conversation (much to the merriment of the bystanders) and laughed immoderately at his own sayings. He knew every person in the room, and recollected events that had transpired before, and yet he would make statements, and insist on their truth, which we knew to be only the workings of his excited imagination. For instance, he would narrate a scene, which as he said he had *just witnessed*, as having occurred with one or more of his acquaintances, placing them in a most ludicrous predicament. He seemed to have a most inordinate desire to please and produce laughter in those around him. His pulse was more frequent than it was at 10 o'clock this morning, though not more than it was on the previous day during the height of the exacerbation of fever; face very much flushed; surface generally very hot, with a general diffused redness, but moist. When asked how he felt, he replied "first rate."

At 3 o'clock I visited him again, when he seemed much less disposed to talk and complained of a fulness about the head; redness and heat of skin not so great.

At 8 o'clock, P. M., the effects of the medicine seemed to have subsided; he still complained, however, of "disagreeable feeling" about his head, recollected the strange fancies which had possessed him through the day; was rather depressed in spirits and disposed to avoid talking.

He took but little medicine after this, and no more quinine. He had no other violent paroxysm of fever, though convalescence was protracted, suffering more or less from disordered bowels for eight or ten days, and

complaining frequently of a "queer and disagreeable sensation about the head."

I was forcibly struck with the similarity of the action of the quinine in this case to that of the protoxide of nitrogen.

My friend Dr. Vickers, of this place, whom I once saw under the operation of moderately large doses of quinine in an attack of remittent fever, was somewhat similarly affected by it. He tells me it generally has an exhilarating effect upon him.

January 23, 1847.

ART. III.—*Removal of the Superior Maxilla for a tumour of the antrum; Apparent cure. Return of the disease. Second operation. Sequel.*
By J. MARION SIMS, M. D., of Montgomery, Ala. [With a wood-cut.]

THE subject of this operation was a negro boy, George, aged 18, the property of Dr. Thomason, of Loundesboro, Ala. The disease first manifested itself some time in the spring of '44, and was supposed to be merely an excrescence from the gum, which was several times removed and cauterized; being always reproduced very soon afterwards. In the course of five or six months his master discovered that the cheek began to bulge out, and, in fact, that he had some serious affection of the bone.

I saw the case early in January, 1845. The tumour appeared to be as large as a good sized orange, occupying the entire extent of the left upper jaw, and involving to some degree the malar bone. The mouth was in a bad condition; the gums purple, tumid and bleeding on the slightest touch; the teeth decayed, with the fangs here and there exposed, while at other points they were firmly ankylosed with their alveoli. The free scarification of the gums, the extraction of the decayed molars, and attention to his general health, soon had him in a proper condition for an operation, which was performed on the 22d of January, 1845, with the assistance of Drs. Ames, Boling, and Baldwin, and in the presence of a large number of medical friends.

The cheek was opened by the curvilinear incision, according to the process of Warren and Velpeau, taking particular pains to avoid the parotid duct. The facial artery being secured, the anterior flap was dissected up to the edge of the orbit. The ala nasi and frenum of the lip were cut up to permit the more easy elevation of the flap. The origin of the inferior oblique was divided, and the contents of the socket separated from the orbital plates of the maxillary and molar bones. The zygomatic face of the maxilla was freed by a downward dissection of the lower flap.

It now remained to attack the hard parts. The left lateral incisor being extracted, an incision was made through the mucous membrane near to and parallel with the longitudinal palatine suture. Two or three nips of Liston's bone forceps easily divided the alveolar and palatine processes. The eye and its appendages were then supported by the handle of a light silver spoon bent at right angles, while the nasal process was divided obliquely downwards so as to avoid injuring the nasal duct. The broad part of the

malar bone was next divided into the speno-maxillary fissure, which was more easy than the section of the nasal process, simply because it was more accessible. The separation of the palate plate from the palate process of the maxilla was effected by a thrust with a strong pointed bone knife.

The only remaining bony attachment, being that with the pterygoid process of the sphenoid bone, was separated by another thrust with the knife laterally.

The diseased mass being now movable was started slightly downwards, thus exposing to view the second branch of the fifth pair of nerves, just as it enters the infra-orbital canal, when it was easily divided, producing excessive but momentary pain.

The operation was now quickly completed by clipping the remaining attachments with the scissors.

The bottom of the wound presented a smooth concavity, fitting accurately the ovoid appearance of the tumour, thus showing that not a vestige of the disease was left behind.

It was supposed by the gentlemen present that the hemorrhage did not amount to more than eight or ten ounces. No ligature was applied save to the facial artery, and that was removed before the wound was dressed. The boy bore the operation (which lasted thirty-five minutes), with wonderful fortitude. During its performance, he was allowed brandy and water as occasion seemed to require. At its completion he was permitted to lie down. After waiting half an hour and compressing a single bleeding vessel, the posterior palatine artery, the wound was closed by the interrupted suture and adhesive plaster. There was no stuffing of the cavity and no other dressing. At 2 o'clock, one hour after he was put to bed, his pulse was 84. At 9 P. M. it was 96. He rested well all night.

Jan. 23d. 8 A. M. There is a large quantity of bloody pus secreted this morning. It appears to trickle down the fauces, being easily hawked out in large mouthfuls. Lies on his right side altogether; pulse 104; no pain; disposed to sleep. Ordered cold water dressings to the face.

9 P. M. Purulent secretion moderated; cold water continued; pulse 110.

24th. 8 A. M. Skin cool; no thirst; no pain; rested well all night; pus diminished in quantity; improved in appearance; left off the water dressing. He convalesced very rapidly from this time. On the third day he could eat a little. On the eighth the plasters and sutures were removed and the wound in the cheek found to be healed up entirely. On the ninth day he walked out in the streets, perfectly well.

His rapid recovery from an operation of such magnitude, was a matter of astonishment to all who observed it. In a short time, the cavity was filled up, all to two small openings about the size of a goose quill; the one leading up to the orbit, the other into the nostril. He kept these little passages stuffed with small pledgets of cotton, which for cleanliness were renewed after each meal. He left Montgomery on the first of March in excellent health and fine spirits, *apparently* cured; with no deformity but that from the cicatrix, and a slight twisting of the face to the right side when he laughed. (See fig. on next page.)

The *tumour* is as large as a medium sized orange, having rather a *tense elastic* feel. The only portions of bone visible are, the alveoli of the lateral incisor and cuspidatus, with the tooth attached; a bit of the palatine and nasal processes, and a part of the malar bone. The orbital plates were entirely destroyed by the pressure of the tumour; so were the inferior

spongy bones of the nose. The orbital edge of the maxilla was transformed into a sort of *spiculated* osteo-fibrous structure.



The tumour is almost perfectly round. That segment of it extending from the eye to the alveolar region forming about one-third of its circumference. The next largest part extends from the alveoli along the hard palate, the third projected under and back of the eyeball; while the last and smallest projection was that in the nasal cavity. The surfaces of all these segments are smooth and round, and that portion behind the eye fitted its concavity as accurately as a hard boiled egg does its shell.

The proper substance of the tumour is osseous and scirrhus, and might be termed an osteo-scirrhus. The central portions of it are filled with *stellations* of bony matter sending off spangled radiations towards the circumference of the scirrhus mass.

I sincerely wish that the history of this case could end here, but the *whole* truth must be told.

George had been at home but two months when he began to complain of pain in his cheek. His master immediately discovered that the disease was being reproduced, and sent him back to me early in May. He had so much pain in and about the eye as to require, particularly at night, large doses of morphine for its mitigation. The growth of the tumour was remarkably rapid, so much so as to be perceptible from day to day. From its re-appearance about the first of May, it had in three weeks time got to be a great deal larger than the first tumour. The left eye was bulged out of its socket, deeply injected and lachrymose; vision greatly impaired, with very little power of moving the eye, and none of closing the lids. The skin of the cheek was thinned, reddened, and seemed to be in danger of ulcerating, simply by the mechanical pressure exerted by the rapid development of the morbid mass, which was greatly enlarged not only here, but in every other direction. The cicatrix left by the first operation had become

elevated, broad, hard, and painful, having very much the appearance of the dermoid tumour, termed keloides.

His condition was looked upon now as being perfectly helpless and hopeless, but he begged for a repetition of the operation, which was accordingly performed on the 24th of May (about four months after the first). Several medical friends were present, and I was assisted particularly by Drs. Ames, Baldwin, and Vickers.

The dotted lines (see fig. p. 312) show the direction of the incisions by which the cheek was laid open. It is unnecessary to give the details of the operation, as I simply followed the tumour, separating its attachments on every side, for it was reproduced from every portion of the cavity made by the removal of the first tumour. It was the most tedious and painful operation I have ever witnessed; but the most difficult and perplexing part of it was the dissection of the mass from its attachments at the back of the socket, and as it were, from the very base of the brain. The tumour was pushed downwards by an assistant, while the dissection under the eye was conducted slowly and cautiously, now with the scalpel and again with scissors; all the time cutting deeply in the dark, guided only by the forefinger of the left hand. During the greater part of the operation, he evinced wonderful fortitude, but at the close his strength was almost exhausted, and often he would cry out in the bitterest agony "oh! how long! how long will it last!" and it lasted, I am sorry to say, *one hour and twenty-nine minutes*.

The hemorrhage was much more than at the preceding operation. A small artery at the bottom of the cavity was compressed for several minutes by the finger, and very soon the oozing of blood seemed to cease. I then introduced a piece of fine sponge (wet) just large enough to fill the cavity and adjusted the flaps over it, securing them by the interrupted suture. Its presence was very injurious. It appeared to invite the flow of blood and there was a gradual hemorrhage kept up for some time, till, in the course of two or three hours, his case presented altogether a very alarming aspect.

From the loss of blood during the operation, and from its gradual draining afterwards, as well as from the excessive shock to the nervous system, he passed into a perfect state of collapse. His pulse at one time but 80 in a minute, instantly rising to 140, and even becoming extinguished on the slightest exertion; his respiration 36 in a minute, suddenly mounting to 60; with great restlessness; burning heat of stomach; nausea and vomiting; sinking; excessive prostration; cold extremities, and cold clammy sweat, indicated but too plainly the imminent danger he was in, of dying by the hands of the surgeon. I was exceedingly alarmed about him; cut loose the stitches; laid open the wound; removed the sponge saturated with blood; wiped out a few coagula; saw that there was a gradual oozing from the bottom and sides of the cavity; plugged it up with a bit of charpie wet in creasote water (twelve drops to the ounce of distilled water); watched it for a short time and discovered that it had the happy effect of checking the hemorrhage. The flaps were readjusted and held merely by adhesive plaster. Brandy and carb. ammonia were administered very freely. He had a most uncomfortable night; the cold hands and feet; the nausea and occasional vomiting; the jactitation; internal heat and thirst; the thready frequent pulse, in short all the symptoms of collapse continued unabated for nearly twenty-four hours, at the end of which time, reaction was pretty well re-established, the pulse falling from 160 down to 120 per minute.

As he was now considered safe, the gaping wound was closed by suture. He improved very fast, and his face was well in a week.

The tumour removed was nearly twice as large as the first, presenting the same peculiarities.

It was very soon discovered that the operation was fruitless, for the internal surface of the cavity showed evident symptoms of a reappearance of the disease at every point. As soon as he was sufficiently recovered, he went home, saying, that he intended to return for a third operation if it became necessary. The disease gradually increased, destroying entirely the vision of his left eye, filling up his mouth and throat so as to prevent deglutition, and he died (in four months) comatose, doubtless from the encroachment of the disease on the brain. He was emaciated to a mere skeleton simply from inanition.

Remarks.—There can be but a common feeling of regret at the unfortunate issue of this case.

The first operation was justifiable, and every one was satisfied with it. The propriety of the second might possibly be questioned, but almost any one would have performed it when an apparently healthy young man was begging for it. I committed two errors in the last, which it may be of some practical importance to remember.

The *first* was in attempting to follow the tumour as though it had been perfectly encysted. Instead of separating it from the remaining portion of the malar bone, I ought to have removed the bone with it, by dividing the zygoma and the frontal process, which would have allowed me to get better at the mass. The operation would have been facilitated very materially, and therefore the pain and loss of blood would have been less.

The *next* mistake (and it was a horrid one) was stuffing the cavity with a bit of wet sponge. This substance absorbed the oozing blood, which not coagulating, was conveyed to the most dependent part of the sponge, whence it fell into the throat or ran from the mouth. If the sponge had been permitted to remain for two hours longer, it would certainly have killed him.

I shall always regret that I did not tie the carotid, as was suggested to me by my friend Dr. Ames. It would most assuredly have retarded the reproduction of the disease, and thus have prolonged life.

ART. IV.—*Laceration of the Perineum.* By JOHN P. METTAUER, A. M.,
M. D., LL. D., of Virginia.

THIS accident occasionally complicates delivery, and is generally followed by troublesome consequences when a spontaneous cure does not take place. In cases of slight laceration, such as often occur in first labours, and those of rapid completion, little inconvenience is experienced, as they very soon cure themselves if the parts are kept in contact by a proper position of the body, and by rest in bed. In some extensive lacerations,

by position, and rest in bed, complete cures have taken place under my supervision. Generally, however, such cures have not occurred, and more or less impairment of the offices of the recto-vaginal wall and sphincter muscle of the anus resulted. I have treated six cases of this infirmity with complete success; and a seventh with partial relief, the patient not being willing to submit to a repetition of operative agencies, necessary for a perfect cure. In all of these cases, the recto-vaginal wall was entirely divided, so as to convert the two passages bounded by it into one; and subjected the unfortunate females to most disgusting accidents. The retaining power of the sphincter muscles was entirely destroyed, and the borders of the lacerations had healed over completely, presenting a smooth labiated appearance.

These cases were attended with considerable impairment of the general health, indicated by disordered digestion; diarrhœa; sometimes constipation; colic; loss of appetite; fever; restlessness; disordered menstruation; and, uniformly, more or less emaciation. The constitution was so morbidly impressible, too, as to subject the unfortunate sufferers to acute attacks, from the slightest exposure to atmospheric changes, or errors of diet. In a remarkable degree they were liable to be disordered by fruit and vegetables, even when used in the smallest quantities. But they were most profoundly important and interesting, on account of the loathsome infirmity of involuntary dejections, forcing their subjects generally to seclude themselves from society.

CASE I.—This occurred in a lady, 24 years of age, of good constitution and person; and resulted, rather from the rude and improper management of the labour, than as a necessary or unavoidable concomitant of it. The particulars of the case were detailed to me by this unfortunate lady; but suffering the pains of parturition, it was not to be supposed that all the circumstances connected with her delivery could be recollected by her with sufficient precision to enable me to refer the accident to a well-ascertained and its true cause. The lady, however, stated that she was lacerated by the hurried and improper efforts of the midwife, in rude attempts to effect delivery before the arrival of a physician, who had been sent for contrary to the wishes of this fiend. It was not known, notwithstanding the improper conduct of the midwife, that laceration had taken place for some weeks after delivery, the pain, incontinence of the sphincter, and other disorders being ascribed to labour. No examination was made by the physician, as he arrived some hours after the delivery had taken place, or the accident would have been known to have occurred. This lady was confined for six months to bed, after parturition, before an attempt was made to correct her laceration, during the early period of which time, she suffered much pain in the seat of the injury.

My examination of the case revealed an extensive laceration. The recto-vaginal wall was entirely divided, and the two passages bounded by it, united into one, by a cleft upwards of two inches and a half in length, with its margins regularly healed over and smooth. No trace of the rectum and its sphincter muscle could be clearly identified; nor was there the least

power of these organs to detain feculent matter passing into the rectum from above.

From the mucous coat of the rectum, a thick massy growth of fungous development presented through the fissure into the vagina, and very slightly beyond the verge of the anus and labia externa, which was excoriated in many places, doubtless from the action of the air and of the urine; and was a source of much suffering, both during urination and defection. The bowels were exceedingly irritable, and the lady from that state, chiefly, had been liable to diarrhœa and severe attacks of colic.

Two days before attempting the operation, the lady was confined to a liquid diet, consisting chiefly of tea in which bread had been soaked, and rice gruel; and the bowels were gently purged on each day with oil.

For the operation, the patient was placed on the back, supported by a pretty high bed, with the buttock resting on, and projecting a little beyond the bed-rail, protected by a folded blanket and sheet, and the parts exposed to a strong light. The thighs were now flexed on the pelvis, and the legs on the thighs; while the feet rested on boards projecting beyond the bed-rail on each side far enough to receive them. In this position the legs were confined by an assistant on each side, with one hand to separate the knees, and the other to fix and steady the foot. Thus situated, the labia were next separated by carefully inserting between them the extremities of two curved spatula of proper width to embrace their surface completely, and making traction through them drawn in opposite directions by two other assistants.

The margins of the laceration were now readily discovered, by pressing the thickened mucous membrane out of the way with the finger, delineated and bounded by a cicatricial line on each side of the fissure. I now commenced the denudations—taking care, however, that they did not extend below the cicatricial lines—and that the thickened mucous membrane shall not be wounded, by removing a belt of the mucous coat of the vagina ten lines in width. The denudation was commenced at the verge of the vagino-rectal orifice, and continued upwards to and beyond the angle a few lines—the separated portion being preserved unbroken—which aided me much in this delicate step of the operation. To prevent obscuration from unavoidable bleeding, I repeatedly, during the operation, washed the blood away, by injecting cold water freely along the line of the denudation, and wherever blood had collected.

This step being accomplished, the denuded surfaces were brought together by a sufficient number of points of the interrupted suture, to approximate and maintain them in close and exact contact; and this important step was effected with short needles, much curved, armed with a compound, or an animo-metallic ligature, inserted deeply beneath, and two or three lines beyond the margins of the denuded surfaces, with strong needle porte-forceps constructed for the purpose. By arming the needle first with a flaxen or silken ligature, doubled so as to form a noose, and connecting the bent extremity of the leaden wire with it, little difficulty was experienced in the introduction of the leaden sutures. I invariably inserted them from within outwardly; and the eye-end of the needle for that purpose was held by the side of the forceps, so as to leave the point of it free and salient on the opposite side of the porte. In this manner I proceeded until a sufficient number of sutures was inserted, reversing the needle in the porte-forceps according to the side at which it was to be introduced. I employed pretty lengthy ligatures, as they were more

easily inserted than short ones; and I found it best to commence at the angle and apply them progressively down to the verge, making each point complete before leaving it; and I invariably loosely twisted the ends of the wires together, as soon as they were drawn through the structures. After inserting the requisite number of sutures, I next proceeded to approximate the opposing denuded surfaces, which was done by tightening the wires, and twisting their free ends together—held by the needle porters—until the parts were firmly and closely in contact. In this manner the whole series were tightened except the lowermost. This last I suffered to remain loose until the parts about the verge could be carefully examined, so as to enable me to determine if the denudation was sufficient to form, after union, a comely and natural looking perineum and fourchette. As soon as this point was determined, the suture was tightened. I have generally found it necessary before tightening the last suture, to form additional denudations, above as well as below the verge; and in some instances, too, it has been required to insert one or more additional sutures, after such denudations. Care should always be taken in closing the cleft at the verge, to secure a complete coaptation to the anus; and the last denudations and sutures must be formed accordingly. The wires ought always to be carefully examined after a sufficient number has been introduced; and if any are found too loose they must be tightened; and my rule for determining this point was deduced from their erect, and bristle-like spring when touched with the forceps. The ends of the twisted portions should then be cut off, but not as close as I practiced in my first case, published in the 25th number of the *American Journal*, for November, 1833. Since that case was treated, I have found it far more convenient to suffer the twisted extremities to remain of sufficient length to be reached with the forceps, by only separating the labia externa moderately. Of such length they can never wound the tender mucous lining of the vagina by their pointed extremities; and by being invested with oiled silk the twisted portions, which are rough, may be effectually kept from the mucous lining also. The chief advantage, however, in not having them short, is, that they can be readily examined and tightened if necessary, without materially disturbing the parts involved in the operation. The sutures must be inserted from four to six lines apart; and in this case ten were required to close the fissure, and to round off the verge and perineum. After carefully cleansing the parts of blood by injecting cold water over them with a small syringe, and investing the whole of the twisted portions of the wires with oiled silk to protect the mucous lining of the vagina against them, the patient was placed in bed resting on the left side on a folded sheet, having her knees tied together with a soft bandage, with directions to remain still as long as possible, and only to lie on the sides. I also cautioned her against making any effort which would cause the perineal and rectal muscles to contract. In this condition, the case was suffered to remain for three days, using to the parts involved in the operation, as they became hot and throbbing, cold wet compresses, or cold ablution. The bowels were suffered to repose by withholding every kind of solid food. Tea poured from bread, rice-gruel, coffee, and butter-milk, were the only nourishments allowed, and these only in sustaining quantities. On the third day the wires were tightened by twisting them; and I will remark here, that they should always be twisted from left to right to avoid confusion. The wires were tightened again on the fifth day. There was no action from the bowels until after the seventh day, and the stool being

soft, produced no derangement of the sutures, nor of the parts now well united. On the twelfth day, the wires were cut away, by dividing them in succession from the angle to the verge. In removing the sutures, I only cut one of the wires near the twist, using for the purpose very sharp pointed scissors; and then making traction by taking hold of the twisted portion with forceps, the uncut thread was easily drawn out. The cleft was perfectly united. For the first week the bladder was evacuated through a gum elastic tube cautiously introduced, to prevent the possibility of irritation from urine accidentally coming in contact with any part of the denuded surfaces.

The liquid diet was continued to the fifteenth day after the operation, at which time thin corn-meal mush and milk were allowed. From this date the allowance of solid food was gradually augmented to a liberal supply. It did not become necessary to administer a single dose of medicine, during the whole treatment; and the lady recovered with a perfect restoration of the parts and their uses. There was no deformity whatever of the verge, perineum, or fourchette. The general health was completely restored; and the lady has had two children since the operation here detailed was performed, without a recurrence of the accident. The fungoid thickening of the mucous coat of the rectum, must have soon disappeared after the operation, as there was no reason to believe, from the actions and sensations of the parts, that it yet remained.

CASE II.—The subject of this case was a married lady, ætat. about 32 years, and the accident occurred during her first labour, more than fourteen years anterior to my examination of it. This lady had experienced five labours since the laceration first took place, each delivery extending it a little farther up, until, finally, the angle of it was very nearly on a line with the os uteri. The long continuance of this laceration, and its concomitant disturbance of the general health, had greatly impaired the lady's constitution, which had, originally, been excellent. The laceration was fully five inches in extent; and, as in the preceding case, the mucous lining of the rectum was greatly thickened, and exceedingly irritable the whole length of the cleft. It was also bounded by cicatricial lines on each side, but less distinct than in the preceding case, by reason of the general thickening of the mucous lining of the rectum.

The same preliminary steps taken in the preceding case, were adopted in this. The denudations were also effected in like manner, but, as there was no regular boundary indicated by the cicatricial lines, I was compelled to assume one, which would afford room sufficient for the rectum, and at the same time direct my course to the angle. I effected the denudations with less difficulty than was anticipated; and believe the thickened mucous lining of the rectum aided me much in directing my course to the angle, as I made its surface the level for the inferior boundary of the denudation. Considerable hemorrhage attended the operation, by reason of the morbidly developed state of the contiguous structures, especially the mucous membrane, both of the urethral and vaginal cavities. This, however, was restrained by the free use of cold water applied with a small syringe.

I inserted thirteen leaden sutures upon the plan adopted, and described in the preceding case; and the after management was likewise the same. On the third and fifth days the ligatures were tightened; and on the eighth they were cut away, the parts seeming to have united perfectly. I had not left the lady's room more than two hours, before I was summoned to attend

again, and with haste. On my arrival, I received the painful intelligence that an alvine discharge of solid character had found its way through the centre of the original cleft. An examination was immediately made, which soon enough disclosed the existence of the unwelcome opening. This fissure was about twenty lines in length. Every other part of the original fissure remained perfectly united, and looked quite natural, and firm as seen along the floor of the vagina.

I cleansed the parts well from feces, and applied four sutures, first carefully removing the uneven margins and the mucous membrane a few lines exterior to them. I also formed fresh denudations near, and beyond the vagino-rectal orifice, to enable me to remove off those parts, and as far as possible to restore the perineum, fourchette, and anus, which I was enabled to do by confining those denudations in contact with three additional sutures. The ligatures were tightened only once after their insertion. In fourteen days the ligatures were removed, and firm union found to have taken place in every part of the original, as well as of the accidental cleft. The perineum and fourchette were very perfectly restored, but there was a slight defect of the anus, the sphincter muscle seeming not to close the orifice so perfectly as to prevent the escape of very liquid fecal matters in all cases. The case, nevertheless, was regarded by the lady as most triumphantly successful, as it permitted her once more to occupy the station of a wife and housekeeper, and in a very great degree to mingle freely in general society after her long partial seclusion from it.

The third, fourth, fifth, and sixth cases did not differ in any material points from the two which have been particularly detailed; and their treatment having been almost identical with that pursued in those cases, with the exception of the second, after the accidental re-opening of the cleft—by the passage of indurated feces through it—it will not be necessary to detail them. I will only remark that the lacerations were extensive, none less than two inches and a half in length, and they were entirely relieved.

The seventh case was in some respects similar to the second, inasmuch as it occurred partially with the first labour, and was extended somewhat at each succeeding parturition, until, finally, its extent was fully-two inches and a half. The recto-vaginal wall was entirely destroyed, and complete incontinence was entailed on the sphincter ani muscle. This case had existed in all about twelve years, during which time the lady's health suffered much, and the irregularities were such as distinguished the two cases already detailed.

The operation was performed as already described, and seemed likely to succeed perfectly. The sutures were removed on the twelfth day after their insertion, and every part of the line of the fissure had healed, except a very small orifice just within the sphincter muscle, through which flatus and liquid feces occasionally escaped. The lady would not be induced to submit to an operation for closing this small opening. Some weeks after leaving her, I was requested again to visit her in haste. I found on my arrival, that the rectum and vagina were again united by a fissure, extending from this orifice through the wall, and I was informed by the lady, that it was caused by the passage of a large indurated mass of feces, causing very intense suffering. The laceration, however, has contracted sufficiently to restore the retaining power partially, and thus enables the lady to appear in company, when her bowels are not in a disordered state. This lady has frequently determined to have the operation repeated; but as yet it has not been done. In its present condition, the case could be easily relieved.

My experience leads me to believe that every case of this afflictive accident is completely remediable.

I decidedly prefer the metallic suture in the treatment of this infirmity. With it we are enabled to close and confine the denuded margin of the fissure with more ease, and greater certainty than with the silken, or thread suture. And should the least gaping of the wound take place, a few twists of the free ends of the wires will enable us to close it up again. The leaden suture, too, does not cut out as soon as silk or thread.

ART. V.—*Report of Cases treated in Cincinnati Commercial Hospital.*

By JOHN P. HARRISON, M. D., &c.

THE main design of the following statement of cases is to elucidate diagnosis. The treatment presents no novelty to the well informed practitioner, and therefore will not be dwelt upon with any minuteness of detail. The symptoms during life, and the appearances after death, shall demand our principal consideration.

CASE I.—*Cyanosis*.—John Ritter, aged 20 years, by trade a baker, had been subject for the last five years to some degree of blueness of the general surface of the body. He says that this appearance of his skin came on after great efforts in carrying wood. Can give no distinct account of his health during childhood.

January 15th, 1844. Upon admission into the hospital presents the following symptoms; difficult respiration; much lividity over many parts of the surface, especially the ears, the lips, and the fingers; great protuberance of the eyeballs; slight œdema of the eyelids; tongue very livid; the external jugular, and smaller veins of the neck much enlarged and varicose; pulse irregular and indistinct; and general temperature of the body, especially of the extremities, low. A slight movement of the patient causes increased lividity of the countenance. The bowels of the patient were in a regular state.

Diagnosis.—Patent foramen ovale.

Prognosis.—Death.

The patient lived, after admission, till the 18th of the month, the blueness augmenting to the last.

Appearances on the autopsy.—The heart was much enlarged in size, the right ventricle was hypertrophied to a great extent, and its cavity much dilated. The right auricle was expanded into a bag sufficient to contain half a pint of fluid. The foramen ovale was imperfectly closed, there being several openings through it large enough, each of them, to admit a small quill. The tricuspid valve did not close up the auriculo-ventricular space. The right lung was healthy; the left lung exhibited a singular appearance. Partial emphysema was obvious in different portions of the interlobular tissue, but in a most remarkable degree there were exhibited three large collections of air, each of the size of the urinary bladder when

containing about a pint of fluid. These collections were obviously produced by the air escaping from the cells of the pulmonary structure, and collecting within the pleura pulmonalis.

Reflections.—It is now a well-established truth, that cyanosis is not an invariable accompaniment of an unclosed state of the foramen ovale. Its frequent occurrence upon such a condition, however, warrants the inference, long since deduced, that this unnatural patency is to be suspected whenever we witness such a case as Ritter's. The enlarged dimensions of the right chamber of the heart was, perhaps, caused by the deficient valvular action of that side. What direct agency the large accumulation of air in the left lung had in the production of the cyanosis there may be room to doubt. But we think it clear that the impeded respiration and the great breathlessness of the patient were in great part induced by this escape and collection of air, out of the true cellular structure of the lung.

CASE II.—*Heart disease.*—George Fusy, aged 29 years, a baker by trade, was admitted April 6th, 1844, for a slight dropsical swelling of the lower extremities, and of the abdomen; for which he had taken, by the direction of a physician in the city, the usual anti-hydrotic remedies.

On admission the patient is thus affected: he is of a pale aspect; has, upon slight exertion, embarrassed respiration; is subject to cold, clammy perspiration; his prolabia are livid; has palpitation of the heart; the urine tested by nitric acid evinces considerable amount of albumen; pulse is small and hard; no perceptible intermission, though a slight irregularity in its rhythm.

The patient was put upon cathartics, alternated with diuretics, but slight amendment followed. In the night of the 14th, eight days from the date of admission, he grew worse. He could not lie down; there is great dyspnœa, with palpitation of the heart. A distinct rasping sound was now heard by the use of the stethoscope. He was cupped to the extent of ten ounces, over the region of the heart, and a large blister was put on after the local depletion. Calomel, opium, and tart. ant. were given persistently for several days, when an obvious improvement followed. The mouth was slightly touched by the calomel, and the patient thought himself well enough, in ten days after the mercurial influence had subsided, to leave the house.

December 24th, 1845. The patient was re-admitted; he is now affected with ascites to a greater extent than on his first admission; great difficulty in breathing; prolabia of a purple hue; pulse very small; action of the heart great; bellows sound, with dull friction sound of the heart.

January 16th, 1846. The patient has been taking since the 24th of last month, various active diuretics, with an occasional cathartic. He has not improved in the cardiac symptoms, although there is a marked diminution of the anasarca and ascites. To-day there exists a palpable absence of respiratory murmur at the lower part of each side of the thorax.

26th. Symptoms of heart affection worse. Heart occupies a larger space; there is cough with great dyspnœa. Respiration on the right side of the chest is perceptible only so high as the point of the scapula.

February 4th. The patient died.

Diagnosis.—During the latter part of this patient's illness, he was attended by another of the hospital physicians. I saw the patient occasion-

ally, however, and determining from his previous attack, and the symptoms as detailed in the records of the hospital, the following diagnosis was arrived at. Hypertrophy, with pericarditis, giving origin to dropsical effusions in the abdomen, cellular tissue, and the chest.

Cadaveric inspection, thirty-six hours after death. Three quarts of serum in the thorax, the largest portion of it in the right side; the right lung rendered useless by the compression of the fluid. The pleura of both sides coated with lymph; pericardium thickened and filled with serous fluid. Heart enlarged; its weight is two lb. three oz. avoirdupois; the wall of the left ventricle three-quarters of an inch thick, and both cavities of the heart much dilated. The aortic valves imperfect, thickened and irregular. The surface of the heart is covered with lymph, which has a honey-comb appearance. Liver much enlarged, and substance easily broken up.

Reflections.—This case was, at the very commencement of the dropsical symptoms, heart disease. The patient stated, just after his entrance into the hospital, 6th of April, 1844, that he had some months previously been affected with pains in the joints. The pericarditis preceded the enlargement of the heart, which, perhaps, was subsequent to the deficiency of the semilunar valves at the mouth of the aorta. The symptoms of cardiac disease seemed to recede under the constitutional action of mercury, and the man was sufficiently restored to return to his work. But the necessary exposure, incident to his occupation, brought on a renewal of the pericarditis and endocarditis. In the subsequent treatment of the case, that is, upon his re-admission, the alterant or constitutional interposition of mercury was not brought to bear with sufficient boldness upon the case. The organic lesions were, perhaps, still controllable by the interference of this great agent. However, on this point we should not too confidently decide, as the medical gentleman who conducted the treatment was in every way competent to arrive at the best therapeutic results which the exigency of such a case required.

CASE III.—Heart disease.—W. Dellabunt, aged 64 years, a labourer, has been affected for five weeks with general dropsy.

March 18th, 1843. Upon admission, the following symptoms were present: anasarca of the lower extremities, and ascites; difficult respiration; dulness of the lower portion of both sides of the thorax, especially the left; respiration difficult, and the respiratory murmur absent in the portions of the chest which yield a dull sound on percussion; action of heart irregular; but nothing determinate ascertained from its sounds, or impulses.

The patient was freely purged with the compound powder of jalap, then put on the following combination. *R.*—Bitart. potassæ ʒvj; sulph. potassæ ʒij; pulv. scillæ ʒj; tart. antimon. gr. jss. *M.* A teaspoonful was given four times a day. Under the use, for several days, of the above prescription, the dropsical intumescence rapidly abated.

24th. The patient had slight delirium, but which subsided in a few days.

April 7th. The dropsy has entirely disappeared. The action of the heart is now more distinct, but in a few days became again indistinct and obscure. The heart occupies a larger space in the region of the thorax.

14th. The patient is again affected with dropsy of the chest, abdomen, and lower extremities.

May and June. During these months he was gradually growing worse. Action of the heart still obscure; respiration much oppressed; cough troublesome, occasionally; pulse intermittent and weak, scarcely perceptible at times.

July. During this month there is increase of dropsical effusion.

August 1st. He died.

Section cadaveris.—Thorax; a pint of serum in the right side, and a pint and a half in the left. Heart enlarged; four ounces of serum in the pericardium; hypertrophy of the left ventricle; aortic valve ossified to a large extent; slight ossific deposit on the mitral valve.

Abdomen.—The viscera healthy. The left kidney has a calculus, the size of a pea, in its pelvis.

Reflections.—Before I took charge of the case the patient had been, during March and April, under the care of the attending physician of the hospital, whose time of service terminated the first of May.

Considering the case hopeless, I did not make any alteration in the treatment. The diagnosis was obscure; that he had enlarged heart, accompanied by some valvular deficiency, was evident, but such was the obscurity in the sounds and impulses of the heart, created by the pericardial effusion, that no positive diagnosis was established.

CASE IV.—*Fractured spine.*—William Clark, aged 33 years, a boatman, was brought into the house on Jan. 25th, 1843. He is addicted to the excessive use of ardent spirits, and whilst in the state of deep intoxication, he fell into a saw pit, and was there found cold, senseless, and nearly dead. There is little pulse, the extremities are stiff, and he is incapable of giving any answer to questions put to him. There is no exterior contusion. The spine is apparently not injured, or at least no injury can be detected by external examination. The urine has distended the bladder, and the bronchi are filled with mucus; the expectoration is difficult.

Cold applications to the head, diffusible stimuli, and external warmth to the body, are the measures employed. The catheter has to be employed to rid the bladder of the urine accumulated in it. The stools are involuntary.

28th. There is a slight improvement in his general aspect and state. There is perfect consciousness; free action of the bowels has been procured by cathartics; the pulse is more perceptible, but still feeble and frequent. The breathing is exclusively diaphragmatic; not the least motion of the abdominal or intercostal muscles seen. There is entire paralysis of motion and sensation from about the middle of the dorsal vertebræ around the body; the lower half of the trunk, and the inferior extremities are insensible and motionless.

31st. Some threatening of delirium tremens; stimulants were given, and he grew slightly better. Bed sores about his hips have made their appearance.

February 7th. The patient died, after a deep and extensive sloughing had occurred in the soft parts covering the sacrum and hips. The accumulation of mucus in the bronchial tubes increased, and his countenance for several days assumed a livid aspect. The delirium three days before death became worse; the paralysis remaining as above stated.

The post-mortem examination revealed the following appearances. The

sixth dorsal vertebra, through its body, was fractured; there was but little displacement of the fractured parts. The spinal cord was apparently uninjured; no perceptible lesion in its membranes, or substance. The kidneys were softened and ulcerated. The softening was general, and the ulceration was most obvious about the calices. The urinary bladder was thickened, and the internal coat abraded of its mucous tissue; purulent matter adhering to it.

Reflections.—This case is one of singular interest from several considerations. First, the fractured dorsal vertebra was not detected till after death, though the symptoms pointed most significantly to such a lesion. The paraplegia, the character of the respiration, and the tendency to gangrene, so early exhibited in consequence of the decubitus, were pointedly evincive of such a grave lesion. Second, the complication of the more profound pathological state of the spinal marrow with a strong proclivity towards temulent mania, arising from the previous and long-indulged habit of spirituous potation. And, lastly, the lesions of the kidneys, and of the urinary bladder, no doubt consecutive and dependent upon the loss of innervation occasioned by the state of the spinal column. Whether this loss of innervation was the result of simple concussion, or of disintegration of the nervous substance, or of absolute pressure, cannot be very readily decided. Concussion had something to do with the paralysis, but we cannot attribute the serious aspect which the case continued to exhibit, to such a circumstance alone. The molecular integrity of the cord was evidently most seriously deranged; this may have partaken essentially of the nature of a contusion, destructive to its vitality, without any very signal proofs of structural alteration.

Several years ago we attended a man, in consultation with a physician, on the opposite side of the Ohio river, who lived three weeks after being thrown, in a personal rencounter, upon the curbstone. He was taken up entirely paralytic, from the neck down, arms, trunk and lower extremities all deprived of sensation and motion. The usual phenomena, witnessed in such cases, were present; there was a slight return of sensation and motion a few days before death. Upon a careful examination of the vertebral column, we found a dislocation of the fifth and sixth vertebræ of the neck. There was no very obvious lesion of structure in the spinal cord, a slight softening only could be appreciated, but no effusion of lymph, or blood, nor any appearance of suppuration. Neither upon examination during life, nor upon particular inspection after death, could we detect any curvature, or displacement in the cervical portion of the spinal column. Soon after the occurrence which induced the paralysis noticed, there was observed some contusion at the lower part of the neck, and the patient, whenever the contused place was handled, complained most bitterly of pain, felt at the upper portion of the contusion, but he experienced no pain when the lower part of the injured soft parts was pressed upon, or otherwise freely touched.

ART. VI.—*Surgical Cases.* By GEO. C. BLACKMAN, M. D., Newburgh, Orange Co., N. Y. [With a wood-cut.]

CASE I.—*Rupture of the Extensor Tendon of the Leg.*—Mrs. P., æt. 60, whilst ascending a flight of stairs, unexpectedly met her daughter near the top coming out of her chamber. The old lady suddenly dodged to avoid coming in contact, her right foot remaining fixed, whilst the whole weight of the body was thrown backwards. Finding that she was losing her balance, she made a powerful effort to prevent a fall, but in this she was unsuccessful. Having been lifted from the floor by her daughter, she discovered that she could not raise her leg. She stated that when leaning her head against the wall, she could move the whole limb freely so far as rotation, &c., was concerned, but she could not lift the leg in an upward direction. The patella was loose and admitted of extensive lateral motion. She felt considerable uneasiness in the region of the knee. A physician was called, who, after hearing the history of the case, thought the old lady was “a little nervous,” and prescribed accordingly. This treatment not proving effectual, after the lapse of some three months I was called in, when I found her, as she had been for years, enjoying most excellent health, but unable to raise her leg. After hearing the particulars of the case I was led to examine the knee, when I found a considerable depression just above the patella, which the patient thought was less than it was shortly after the accident. She also thought that the motions of the patella were rather more limited, saying, “that for the first few weeks she could turn it almost around.” On making further inquiries to ascertain whether the hip or ankle had suffered from the fall, I became convinced that the injury was confined to the extensor tendon of the right leg. I then applied a straight, concave splint, with a pad over the knee to approximate the divided ends. This was worn for twenty-one days with decided benefit. She remarked that she had gained strength from the first week of its application. To satisfy me of this, she raised her leg from the chair three times in succession to the extent of several inches. This, she observed, was the first time that she had raised it since the accident. Some two or three days after my last visit she was prevailed on by a female friend to send for Sweet, *the natural bone-setter*. This female friend had sprained her ankle some months before, and had just been cured by having her hip reduced, which Sweet had told her “was out of joint!” As soon as Sweet entered the room of my patient, and saw the splint which I had applied, he directed them to throw it off, saying that it was enough to palsy any limb. He then told her that her hip was out of joint, and that he would soon enable her to throw aside her crutch. It is unnecessary to state that these promises were never fulfilled. For a number of days after his manipulations the old lady suffered much pain in the hip-joint, which her friends, mortified at the imposition, but still unwilling to admit that they had been duped, attributed to a heavy cold which she took a few minutes after he had finished his operations! Seven months have since elapsed, and she still walks but very little, and only when supported by a cane. I should have stated that at my last visit, she called my attention to the increased firmness of the patella, observing that it had become more fixed from the time of the application of the splint. This, it will be re-

membered, had been applied for twenty-one days, and to the subsequent rest which the old lady was obliged to adopt in consequence of the pain resulting from Sweet's manœuvres, may fairly be attributed all the benefit that she has derived.

From the cases which have been reported, we learn that patients of Mrs. P.'s age are long in recovering even a tolerable use of the limb after this accident, and the very gradual improvement that has taken place is such as we should naturally expect from the circumstances of the case. On presenting my bill, payment was refused, on the ground that I had committed an egregious blunder in diagnosis; and in a court of justice before which I presented my claims, some physicians were brought who expressed the opinion that there had not been a rupture of the extensors of the leg, as such an accident could not occur. Drs. Jas. R. Rumsay, Geo. Brown, and Schenck, gentlemen of extensive observation and acquirements, after hearing the testimony on both sides, declared they had no hesitation in saying that I had formed a correct diagnosis in the case, and had adopted the most appropriate treatment. I will not insult the readers of this Journal by attempting to prove that this is an accident which may occur, and which is described by surgical writers, but it may not be unacceptable to some, who are denied access to works which are not extensively circulated, and who are liable to be placed in my situation, to have substantial proofs on this point convenient of access.

J. L. Petit, in his valuable work on the diseases of the bones, says: "Every body knows that the knee-pan is broken by the violent contraction of the muscles, and *I have seen the rupture of the tendon of the extensors of the leg from the same cause*. These tendons may be broken in the same manner as any other cords when stretched with violence, &c. I have reported several of these cases in the *Mémoires de l'Académie des Sciences*."

Benj. Bell, in his *System of Practical Surgery*, vol. i. p. 455, speaking of fractured bones and ruptured tendons, observes, "I have known different instances of the tendon of the rotula being ruptured, as well as the tendo-achilles," &c. In *Dorsey's Surgery* we read of this accident, and in Bichât's edition of Desault it is particularly described.

Mr. Syme, in his *Principles of Surgery*, says, "that instances of the complete rupture of a muscle by the over-action of its own contractile power have been observed in the recti muscles of the abdomen and the rectus femoris."

Cruveilhier, in his *Anatomy*, after describing the great power of the extensor muscles of the leg, remarks, "We cannot, therefore, be astonished at the rupture of the patella, of its ligament, or of the common tendon, during a violent contraction of this muscle, notwithstanding its disadvantageous insertion so near to the fulcrum."

M. Vidal, in his *Treatise on External Pathology and Operative Medicine*, describing fractures of the patella, says, "the solution of continuity may take place either in the patella, in its ligament, or the common tendon of the extensors of the leg." Again, in speaking of the accidents to which the flexor tendons of the leg are liable, he observes, "the other tendons (i. e., the extensors), may be broken or divided by accident, giving rise to serious difficulty in walking or standing." Under the head, *Rupture of Tendons*, we also find, "the consequences of these ruptures depend upon the volume and the importance of the tendons broken, and I mention them in the order of their importance, and the frequency in which they occur,

viz., that of the tendo-achilles, the extensors of the leg, and the triceps extensor cubiti." P. 437.

I might quote from *Cooper's Dictionary*, and from the works of Liston, Velpeau, Sabatier, and others to the same effect, but I will conclude my observations on this case by quoting a few remarks from Nelaton's *Éléments de Pathologie Chirurgicale*. In his article on the Rupture of Muscles and Tendons, p. 572, he observes, "I have collected the reports of forty-nine cases of this accident. Of these twenty-four were taken from the *Mémoire sur la Rupture Musculaire*, par JEAN SEDILLOT (*dans les Mémoires de la Société de Médecine*. Paris, 1817); twelve from that of M. Demarquay, on the Rupture of the Tendon of the Anterior Crural Muscle; five from Boyer; four from the great *Dictionnaire des Sciences Médicales*; one from the *Médecine Opératoire* of M. Velpeau. Of the last three, one was observed by S. Cooper; the second was a rupture of the biceps humeri; the third is still in my wards, and is a rupture of the tendon of the anterior crural muscle. Of these forty-nine cases, four occurred in the recti abdominis; two in the sterno-cleïdo-mastoïdeus; two in the arm; one in the biceps humeri, the other in the deltoid; forty-one in the inferior extremity, *thirty-seven of which occurred in the extensors of the foot and the leg*. This lesion has often been observed in the tendons of the extensor muscles of the leg and thigh, but it is extremely rare that it affects the tendons of other muscles. I have seen no report of a case of a rupture of the tendon of the triceps extensor cubiti, which offers so striking an analogy in its functions, the number and arrangement of its fibres, with the triceps extensor femoris. The prognosis of this affection is much more serious than that of the rupture of the tendo-achilles. In the fourteen cases collected in the *Mémoires of M. Demarquay*, we find that union took place in one case in twenty-one days; in two cases in fifty days; once in sixty days; three times in several months; once in eighteen months; and in the rest the time is not specified. Seven of the fourteen were cured; four remained cripples; and in the others the termination is unknown, although it was probably unfavourable. From these facts we may draw the following conclusions: 1st. The average duration of the treatment varies from forty-five to sixty days; 2d. About one-half do not regain the use of the limb. An affection which requires the confinement of the patient to the bed for sixty days, surely demands a grave prognosis. This, however, we think is more apparent than real; in other words, it is owing rather to the defective means employed in its treatment, than to the nature of the case. To approximate the divided ends of the tendon, most authors direct the limb to be bandaged, and to be placed in a state of extension. The common bandage is quite inadequate to fulfil this indication. The dextrine bandage, the advantages of which we have enumerated when describing the treatment of rupture of the tendo achilles, may be applied in this accident with the same benefit. M. Velpeau and Blandin are indebted to it for effecting a complete cure. The latter applies it in the following manner: it is made to embrace the foot and leg as far as the knee; arrived at this point, the patella is pushed upwards by graduated compresses, the whole limb placed in a state of the most complete extension, thus bringing together the severed portions, whilst the bandage is carried as high as the trochanters. A long splint fixed on the posterior part of the limb maintains the extension until the whole apparatus becomes firm."

CASE II.—*Excision of a portion of the Tendon of the Tibialis Anticus and division of the Peroneus Longus.*—A few days since, I met a young gentleman on whom I performed an operation some four years ago, somewhat novel in its character, and of considerable importance in its bearings on orthopedic surgery. An account of it was published shortly after its performance, in the *New York Lancet*, but as a sufficient length of time has now elapsed to ascertain the real benefits of the proceeding, I give it again in detail. The patient was a lad thirteen years of age, afflicted with a paralytic affection of the right inferior extremity, commonly called "weak ankle." His father, who lives in New Jersey, called on me in October, 1841, (at which time I resided in N. York,) for the purpose of placing him under my care. He gave me the following particulars of the case. The child began to walk at a much later period than usual. He could never raise the right foot from the ground as readily as the left, and when raised it pointed downwards and outwards, assuming the form of talipes valgus. The temperature of the limb was greatly diminished, and its sensibility considerably impaired. Owing to the awkward swinging gait so peculiar to this affection, and the general diminution in the size and length of the right leg, the spine had become considerably distorted in a lateral direction. General health was good. I put the patient on the use of strychnine both externally and internally, frictions, &c., and applied a shoe, to which was attached a spring calculated to assist the muscles on the front of the leg. This course was faithfully pursued for six months without any appreciable benefit. Being satisfied that it would be useless to persevere further in this manner, I resolved to resort to a method different from that usually adopted in such cases. On the 6th April, 1842, in the presence of Drs. Jas. L. Van Ingen, of Schenectady, and Chichester, of N. York, I divided the peroneus longus, which seemed to play an important part in the eversion of the foot. In the next place I commenced an incision just above the annular ligament, which was carried about an inch and a half above its superior margin. The tibialis anticus was laid bare by a careful dissection, and about three-quarters of an inch of its tendon removed. The wound was immediately closed, and a roller applied with Stromeyer's board, for the purpose of maintaining the divided extremities of the tendon in apposition. The patient was directed to keep quiet, and to take a gentle cathartic. Little or no pain followed; the wound healed by the first intention, and the patient assured me that there was no perceptible difference in his sufferings subsequent to the operation, in the two wounds. At the end of the seventh day, I found on removing the dressings that the ends of the tendon had united sufficiently strong to maintain the foot in its natural position. He was directed, however, to continue the use of the footboard, having it removed at times, only for the purpose of making some efforts to flex and extend the foot. In two weeks the dressings were all removed, when the patient could, for the first time in his life, place the foot upon the floor and raise it again, without any of that dropping downwards and pointing outwards to which it had been so long accustomed. The patient informs me that his limb has continued to improve in growth and strength, and he is delighted with the result of the operation.

Remarks.—It is a commonly received opinion that tenotomy proves innocuous only because it is performed on the subcutaneous principle. It

would be presumptuous on our part to affirm that this is an error, receiving as it does, the support of so many distinguished authorities, but we have seen enough to make us at least doubt whether the safety of this operation depends altogether on the exclusion of air from the wound. We have removed a portion of the semi-tendinosus for a paralytic affection of the inferior extremity in which the knee projected backwards, and we have also excised a portion of the extensor communis digitorum for a "dropping of the hand." In neither of these cases, although the tendon was freely exposed, was there any peculiarity in the healing of the wound. The experience of Mr. Braid, of Edinburgh, as related in the *Ed. Med. and Surg. Journal* for October, 1841, corroborates this view of the matter. He states that he has treated a number of paralytic affections both of the upper and lower extremities on this principle with success. By this he means, we presume, that he effected a great improvement in the functions of the limb. That he succeeded in restoring the affected members to their normal condition is more, we think, than can be said of any of the subjects of orthopedic surgery. In the above case, and indeed in some hundreds of cases of deformities in every part of the body which we have treated, whether arising from spasmodic contraction or a paralytic affection of the muscles, we make no such pretensions. We are by no means disposed to underrate the importance of this branch of surgery, but we do believe that its advocates have exaggerated the benefits which it is capable of conferring. They have too often led the afflicted to believe that in tenotomy and myotomy was to be found the great panacea for every form of distortion, and that with the *shape* they might expect the perfect *restoration* of all the functions of the affected part. This we conceive in the majority of cases to be impossible. When any part of the body has been for years retained in an unnatural position, the structures of that part become so greatly modified as to render it impracticable to restore them to their normal state. Patients would derive much greater benefits from orthopedic surgery, were operative proceedings not so much regarded as the *sine quâ non*, but only as an important adjunct to other powerful means. Let the division of muscles and tendons in cases of contraction, and the excision of a portion of the tendon where paralysis exists, be faithfully followed by bathing, frictions, manipulations and proper apparatus, and this department of surgery cannot be too highly appreciated.

CASE III.—*Contraction of the thigh upon the pelvis*.—Miss M., from Syracuse, in this state, placed herself under my care, in the summer of 1842, for the purpose of having some effort made to overcome a deformity which was likely to prove an insuperable obstacle to her entering the married state. She was about twenty years of age, of fine personal appearance, and was ready to submit to any means I thought proper to adopt.

When about seven years old, she suffered a severe attack of morbus coxarius, which lasted for nearly a year. On the subsidence of this disease,

the affected extremity became two inches shorter than the other, whilst the thigh was forcibly flexed upon the pelvis and adducted towards the opposite side. In making an effort to separate the thighs, the adductor muscles and the pectineus became tense and unyielding. I divided the adductor longus and the pectineus, making the point of the knife enter on the side towards the femoral vessels, and passing it from them as in the division of the hamstrings. Although the contraction was of thirteen years' standing, this operation added greatly to the power of separating the limbs. After the cicatrization of the wounds, I made repeated attempts to flex, extend, and abduct the thigh.

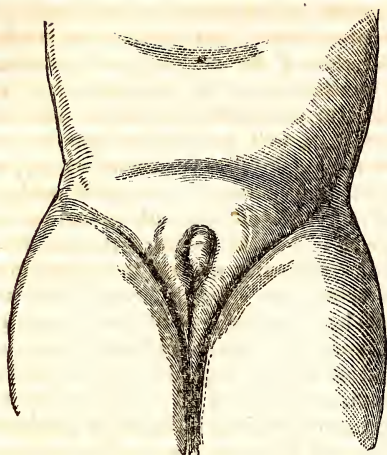
By these manipulations, in the course of a fortnight, she could separate the affected from the sound thigh almost as readily as before the occurrence of the disease. Stromeyer, Dieffenbach, and Dr. Little, have reported cases of this kind in which an operation was attended with very beneficial results. One of the cases operated on by Stromeyer, was a girl, nine years of age, who on recovering from an attack of measles, imprudently exposed herself, and was almost immediately seized with disease of the hip-joint, accompanied by pain and contraction in the knee.

The thigh finally became so much flexed as to lie in contact with the abdomen. The pain was much increased by any attempt to extend the limb, so that he was obliged to abandon the use of all apparatus. Believing the sartorius and the pectineus to be principally concerned in keeping up this contraction, he resolved to divide them, which was done on the 5th March, 1838. The patient was placed on a table, and whilst an assistant extended the bent extremity, so as to put the pectineus on the stretch, the left index finger being then placed hook-fashion behind the outer border of this muscle, about one inch and a half from its origin, a well curved bistoury was made to pierce the skin and its upper half. This portion was then first divided beneath the integuments, and a similar operation then performed on its under and inner half, so that only a few drops of blood escaped by the external aperture. To accomplish the section of the sartorius, the knee was adducted so as to render the muscle tense; it was then seized between the finger and thumb, and divided beneath the skin at a distance of about two and a half inches from its origin. The extremities retracted about an inch. After the completion of both steps of this operation, the thigh was gently straightened, and without any pain. An extending apparatus was then adjusted and worn for a fortnight, at the end of which time the limb exhibited no tendency to retraction.

Dr. Little, in his "*Treatise on Anchylosis*," has reported five cases, in which he has operated for this deformity. The results in four of them, he says, quite equalled his expectations and the anticipations of his patients. In one only was he disappointed, but still believed, that cautious perseverance in frictions and manipulations, and the assistance of mechanical supports would ultimately have enabled this patient to walk well. He observes, that at the time of writing his work, he had a similar series of cases under treatment, the whole of which he thought would receive considerable benefit; the deformity, and the fatigue of taking exercise being diminished and the gait rendered less unsightly. His remarks on the treatment of false anchylosis of the hip, may be of interest to those who have not his

valuable work. "If, in chronic or acute inflammation of the hip," he observes, "the curative efforts of the practitioner have been so successful that, after a few weeks or months' duration of the disease, resolution has been effected, and slight muscular contraction, with thickening of the articular tissues, alone remain, attention to manipulation, friction, and extension of the limb, with cautious exercise, will restore the functions of the member. If the muscular contraction and other resistance cannot be overcome by these means, an apparatus, consisting of a circular bandage fastened to the pelvis, and sometimes to the shoulders, with a steel spring attached behind to the femur, in order to effect extension of the member, may be worn, and will in a short time, sufficiently remove the contraction to permit the application of the entire sole to the ground. Should the use of apparatus and friction prove insufficient, the division of the contracted muscles offers the only chance of restoration; but this should not be resorted to until the practitioner is satisfied that no risk of reproducing the disease of the hip exists. Thus within the first, second, or third year of the cessation of the hip-joint disease, the attempt at restoration by the aid of mechanical apparatus will usually be preferable, and if, in this manner, the member cannot be completely straightened, the aggravation of its position will be prevented. Even in cases of false ankylosis, when osseous union appears imminent, judicious recourse to mechanical means will place the femur in such a position that the deformity will be much diminished, and the member prove much more servicable than when, from ignorance of the value of attention to this circumstance, the limb is permitted to remain in the completely flexed position in which ankylosis usually exists. The section of tendons is of great value in false ankylosis of the hip, even when many years have elapsed since the original disease; thus I have successfully treated adults who had suffered from morbus coxarius in earliest infancy. The prognosis must, however, be guarded, as, in the investigation of the pathological condition of the hip, owing to its anatomical conformation, greater difficulty in ascertaining the precise amount of change the structures have undergone, exists than in ankylosis of many other articulations. Except in children, the flexion of the hip cannot be entirely overcome; but if, in older persons, restoration can be so far effected by the aid of tenotomy, that, instead of walking with a crutch or crutches, and the knee drawn up to the abdomen, the thigh can be permanently straightened, so that the patient can partially place the foot on the ground; or if, instead of walking with the knee inverted, and not without the assistance of a boot raised four or five inches, locomotion can be effected with a shoe raised at the heel but little more than an ordinary boot; the patient's gratitude will amply repay the practitioner for the trouble he has experienced in the treatment of a case of no very encouraging nature."

CASE IV.—*Malformation of the Penis.*—About the middle of May last, I was requested to visit a child of Mr. W., of Dutchess county, who was afflicted with a congenital malformation of the penis. He was a large healthy boy, about eight months old, and his penis bore a striking resemblance to the clitoris. It was imbedded in an oval depression in the adipose substance covering the pubis, beyond the level of which it did not protrude. (See fig. on next page.) Throughout the whole length of its inferior border it was united to the scrotum, the surface of which was constantly irritated and excoriated by the urine, which escaped from a very small opening



close to the junction of the parts. The prepuce was ample, but the glans, so far as it could be detected, appeared to be very small. Whether the latter was imperforate or not, it was difficult to say, though from all that I could discover, I was led to suspect the existence of hypospadias. Although the growth of the child had been rapid, the penis had not increased in size from the time of his birth. The parents were, of course, exceedingly anxious that some effort should be made for his relief. I gave a favourable prognosis, so far as the removal of the deformity was concerned, but informed them that should I find, as I expected, the ure-

thra terminating behind the glans, owing to the diminution in the size of this latter organ, I should probably be compelled to defer the operation for the establishment of the passage to a future period. With the assistance of my friend, Dr. Deyo of this village, I operated for the removal of the deformity on the afternoon of the 21st of May. I introduced a small sound into the urethra, whilst Dr. Deyo elongated the penis as much as possible; then I divided that portion of the bridge beneath the apex, after which the dissection was continued through the skin and cellular substance in a semi-circular direction on each side of the penis embracing about two-thirds of the circumference of this organ. Following the urethra, the lower border of which was necessarily exposed, I carefully cut in the direction of the canal for nearly an inch. The penis being thus liberated, I could easily uncover the glans, which I found to be small and imperforate, the urethra terminating just behind it. The operation thus far had been painful, and attended with a considerable oozing of blood. The latter having subsided in the course of a few minutes, I next made a transverse incision through the integuments on each side of the penis for about three-quarters of an inch. These commenced at the upper extremities of those which had previously been made in a lateral direction, and the portions thus detached were drawn together by several sutures, and united in the median line under the penis. A small leaden tube was then introduced into the urethra, and the penis was thrust into the finger of a glove of a suitable size, which was fastened with tapes around the body. This was made more secure by two other tapes, which were passed under the perineum and around each hip. The junction of the detached integuments in the median line of the scrotum, was covered with plasters and oiled silk, to exclude the urine from the wound. During the night, the prepuce became greatly swollen, and the child suffered much whilst the urine was discharging. For three days and nights he was quite restless, and would retain his urine as long as possible. On the fourth day, finding that the root of the penis was becoming somewhat strangulated, the dressings were removed, and pledgets of lint smeared with simple cerate were interposed between the penis and the scrotum. Soon the swelling began to subside; the case proceeded in all respects most favourably, and at the end of a fortnight, the whole was

completely healed. Some two weeks after this, I saw the child, and no contraction had taken place. The parents were delighted with the result of the operation, and promised to inform me if there was any disposition in the parts to become retracted. Not having heard from them July 9th, it is fair to conclude that the operation for the removal of the deformity has been successful. There is every reason now to believe, that henceforth the growth of this will correspond with that of the other parts of the body, and when the glans shall have become more developed, I propose to remedy the hypospadias. It is probable that this will have to be deferred for some two years at least, but owing to the increase in the length of the penis, the scrotum now suffers but little from the excoriation formerly attending the discharge of urine.

ART. VII.—*Cases of Paralysis peculiar to the Insane—the Paralyse Générale of the French.* By PLINY EARLE, M. D., Physician to the Bloomingdale Asylum for the Insane, New York.

It is believed that the following cases of a singular disease, very rare in this country, are sufficiently novel to repay a perusal by physicians whose attention is not particularly directed to the study of mental disorders.

So far as I am informed, no cases of the kind have hitherto been published in the United States.

To those who, from the length of this article, might be disposed to pass it by, I would especially point out the 1st, 2d, 5th, 9th and 10th cases, as embodying the greater part of the peculiar characteristics of the *Paralyse Générale*.

CASE I.—W. V. B., native and resident of N. Y. city, a butcher, æt. 35 years, of medium stature, light-brown hair, blue eyes, and nervous sanguine temperament, was admitted into Bloomingdale Asylum Nov. 21st, 1845. He was married and had five children. Though sufficiently prosperous in business, he had for some time previous neglected his affairs, frequented public houses, lost much money by gambling, and been otherwise intemperate in his habits, though, it is said, not excessively so. His mental disorder first became manifest about four months before admission. During that time he entirely neglected business, imagined himself possessed of great wealth, although in reality penniless, and indulged in concocting the wildest schemes for accumulating more. He had been under no curative treatment before he was brought to the asylum.

State when admitted. Pulse about 80 beats per minute; pupil of the right eye larger than that of the left, but both dilate and contract according to the degree of light; tongue tremulous, and covered with a slight coat of fur; appetite good. Grates his teeth, speaks indistinctly, running the words together and dropping some of the syllables. Gait unstable; his body vacillates as he walks. Says he possesses twenty-one millions of dollars' worth of stock in the Merchants' and Drovers' Bank, a farm in Louisville, Kentucky, a house in this city, and three steamships which cost five millions of dollars. With these vessels he says he once went to sea,

and threshed the British. When the Texan difficulties arose, he sailed again and captured one vessel. He could take no more, because their officers, frightened by his guns, which were ten feet long, and had a range of ten miles, made haste to escape from him in the best way they were able. R.—Cathartic pills of cal., gamb., aloes.

Nov. 23d. R.—Mass. ex hydrarg. gr. j, t. d. This prescription was continued till Dec. 12th without ptyalism, taking meantime two or three cathartics.

27th. Says Polk has resigned the office of President of the United States in his favour, as a reward for beating the English, and that he has made two millions of dollars during the past year.

Dec. 19th. R.—Ex. conii gr. v, t. d. This was gradually increased to gr. xx, t. d., and continued till January 12th, 1846.

Jan. 12th. Diarrhœa with discharges containing blood. R.—Tinct. opii gtt. xx. He has now become filthy in his habits, wakeful and noisy at night, throws his bed and bed-clothing about the room and sleeps on the floor. Thinks his food poisoned. Has a small ulcer on the thigh.

21st. There evidently being a chronic affection of the brain, I prescribed Lugol's sol. iodine gtt. iv, t. d. This was increased on the 28th to gtt. viij, t. d., and continued until March 3d.

Feb. 2d. Left leg and arm partially paralyzed; tongue and lips drawn slightly towards the right side. Feet somewhat œdematous. Sense of taste obtuse. Says he is more skilful than any physician; that he has one hundred billions of hogsheads of molasses which will cure any disease.

5th. Troubled with hemorrhoids. R.—External application of ice and ung. galli. This treatment relieved him in a short time. Was asked for the loan of one million of dollars, taking a mortgage on the N. York City Hall for security. His laconic and indignant reply was, "The City Hall is already my property."

18th. Hands slightly œdematous, face and feet very much so. Continues to grate his teeth; speech more indistinct, knees tremulous. Again troubled with bleeding piles. Treated and relieved as before.

March 1st. Since the last date his symptoms have rapidly become aggravated. His appetite is now very poor, his discharges involuntary, and all muscular motion is much paralyzed.

3d. Face, hands, feet, and legs as high as the knees œdematous. Cannot walk and can barely stand. All the extremities partially paralyzed; those of the left side the most so. General sensation very obtuse; the most severe pinch is scarcely felt. Says he is worth three hundred trillions of dollars. He was now treated by stimulants and tonics, but continued rapidly to fail and died on the 7th.

Autopsy.—Cranium thick, containing the ordinary quantity of diplœe. Its internal side is deeply marked by the blood-vessels and the glands of Pacchioni. The dura mater adheres strongly to the skull, on the superior region of the anterior lobes, and at the base of the brain, in the region of the middle and anterior lobes. This membrane is apparently of its natural thickness, but it is connected by strong bridges, to the subjacent membranes, along both sides of the longitudinal sinus, throughout a space four inches long and one-half inch wide, on either hemisphere. The posterior extremity of this region is immediately back of the crown. The falx appears unusually thick and fibrous. No adhesions between the hemispheres.

The dura mater being removed, the whole exposed surface of the brain is remarkably red, the blood-vessels being much engorged. The arachnoid

membrane is thickened, of a milky hue, and translucent or semi-opaque over all this surface, except a small portion on the anterior lobes. It is completely opaque in some places on the superior region of the right hemisphere. It is elevated by an intermembranal effusion, so as to make it higher over the sulci than over the convolutions. It adheres to the pia mater, except in the spaces over the sulci, throughout the superior and lateral surface of the middle and anterior lobes. In many places the two seem to be fused together, and adherent to the brain, so that on their removal small portions of the cerebral substance are taken away with them. The folds of the pia mater of adjacent convolutions adhere to each other in the sulci. The cineritious matter is about one-tenth of an inch in thickness. Its colour and consistence are apparently normal. The medullary matter being divided, its surface is scattered with numerous bloody points. The plexus choroides adheres to the membranes upon which it lies in both the lateral ventricles. Its vessels are much injected. The fornix and the velum interpositum are united by small filaments. The latter is thickened and strongly adherent to all the parts with which it is in contact. No calcareous matter discoverable in the pineal gland. One-half an inch posteriorly to the crura of the fornix there is a strong attachment between the adjacent membranes of the optic thalami.

The membrane covering the corpora quadrigemina, and the adjacent surfaces of the cerebrum and the cerebellum is strongly adherent to the several parts, and its different folds to each other. Numerous small cords seem to connect all the region into one mass.

Base of the brain.—The arachnoid is thickened over all the surface of the cerebrum and cerebellum. It is translucent and of a milky hue, particularly about the central region, but not so much so as on the summit of the brain. The blood-vessels are much engorged. The membranes around the central region, the pons varolii and medulla oblongata adhere to each other and to the brain beneath them. The fourth ventricle is filled with bridles running across between the opposite surfaces. On the middle lobes, where the dura mater adhered to the base of the cranium, both substances of the brain are degenerated, softened, and of a slightly yellowish hue. This degeneration extends upwards into the corpora striata and the optic thalami. The substance of the cerebellum is apparently natural. Six ounces of serum ran from the brain, and one ounce from the spinal cavity. There were about two drachms in each lateral ventricle, but before they were opened the brain had been removed from the cranium and laid upon a board.

CASE II.—Admitted Oct. 23d, 1844, P. W. V., æt. 42 years, stature short, hair light-brown, eyes blue, temperament nervous-sanguine. He is the son of a wealthy merchant in London, and received a classical education. He married in England, and afterwards for causes unknown here, emigrated to this country without his family. Not long after his arrival, he contracted marriage with a woman in New York, by whom he now has three children. During his residence in this country he has indulged freely in the use of wine, a habit which it is to be presumed he has been in from his earlier years. He is engaged in the manufacture of caps, and has pursued the business to the present time. For four years past he has exhibited symptoms of incipient insanity, by various eccentricities, irritability, and sudden paroxysms of passion. Recently he has made violent attacks upon his wife, and, when under excitement, has threatened to kill both her and himself.

State, when admitted. He is under the immediate effects of wine; is talkative, boastful and noisy; imagines himself very wealthy and powerful. Tongue furred; bowels costive; circulation rapid, with tendency to the brain.

He was freely purged, and becoming more quiet, was removed from the asylum on the 5th of November, in opposition to my advice. One of his first acts, after returning to the city, was to place his wife under the care of a physician, to be treated as a lunatic, and, if necessary, sent to the Bloomingdale Asylum, with directions to the physician thereof to place her in one of the strongest and least comfortable apartments.

He prepared what he called a "medicated bath," among the constituents of which were vinegar, mustard, pepper, lemon juice, eggs, lamp oil, Cologne water, a bottle of French perfumery, the entrails of two fowls, and a great variety of other articles as well adapted to the purpose as these. After having bathed himself and his children in this remarkable compound, he was about to compel his wife to undergo the ordeal, when a friend, accidentally calling, interposed and prevented it.

Subsequently, he concocted a "soup," the ingredients of which were not unlike those of the bath. Of this he compelled his children to eat until they vomited.

Under these circumstances, it was thought most prudent to bring him again to the asylum. He was readmitted after three days' absence.

He was then much in the same condition as when first admitted. Having been freely purged, he was, after a few days, put upon the use of conium, which was continued for some time. Occasional cathartics were taken meanwhile, with local depletion by cups, from the back of the neck. It was evident from the beginning, that there was permanent lesion of the brain, and no hope of cure was ever entertained. The circulation was always rapid, with disposition to the head; the pupils were unequal in size, the left being the larger. His appetite was voracious; his speech affected, many words being but partially uttered, and frequently, several words were run together in their enunciation. This symptom increased as the disease progressed. He was boastful, pompous, and overbearing, always in the right and others always in the wrong. He claimed intimate acquaintance with the Shah of Persia, the Imaum of Muscat and Mehemit Ali, each of whom, according to his testimony, had given him a large number of wives. He said that he had traveled throughout India, clothed in a coat of mail, which preserved him from the poisoned arrows frequently shot at him by his enemies. Nothing, as he thought, was so great that he could not accomplish it. He imagined himself possessed of vast riches, in money and in lands, in every part of the world. Even before his first admission he had squandered a considerable sum by giving checks without any consideration. Towards the close of his life, his ideas of station became still more exalted, and he claimed the Queen Victoria as his wife.

In the spring of 1845 he grew worse, and began to be destructive. He tore his clothing and tied the shreds into numerous knots. On several occasions, in the night, he tore his bed clothes in a similar manner, tying them together and to the bed-post, so that the whole seemed but a mass of shreds and knots. While doing this, he supposed himself engaged in some profitable work. He would keep busy all day pulling straw from his bed, tucking it into the crevices of the doors and windows, pulling it to pieces and knotting it together, all the time imagining himself at work upon caps, hundreds of which, he said, he manufactured every day.

About the 20th of June, an ulcer formed on his arm, and soon afterwards, others upon his legs. The feet had previously become œdematous. They were punctured, and for some days it was thought that a quart of serum was discharged from them each day.

Notwithstanding the general degenerance of his system, he was able to be about the house, and in the yard, until the day before his death. There had been an instability in his gait for several months, and this increased to such an extent, that at times his walk was like that of a child soon after learning to go alone. General sensibility was much impaired, and his handwriting grew worse and worse as the disorder progressed. On the 5th of August, about an hour after eating a very hearty dinner, he fell to the ground, having all the symptoms of cerebral congestion. Notwithstanding the usual treatment in such cases, he remained speechless and comatose until the morning of the following day, when he died.

Autopsy.—The skull is very hard, containing but little diplœe. The course of the blood-vessels is deeply marked on the inside. The dura mater was separated from the bone with difficulty. This membrane adheres, by thread-like bridges, through the arachnoid and pia mater, to the cerebral substance. On its being removed, the blood-vessels of the whole exposed surface are found to be remarkably engorged. The arachnoid is opaque over the whole of the anterior and middle lobes, and the top of the posterior. In all these parts, and between the hemispheres corresponding to them, the arachnoid and pia mater are thickened. The convolutions are bound together by thread-like bridges. The blood-vessels of the posterior lobe and of the cerebellum are highly injected. The cineritious matter is unusually dark, and the surface of a section of the medullary matter is very thickly strewn with red points. Enough blood oozes out of these to colour the surface, and this being wiped off, the surface is again coloured in the same way. The hemispheres in front of the great commissure are strongly bound together by thread-like attachments. Two drachms of water in each lateral ventricle, and the blood-vessels of these ventricles highly injected. A remarkable quantity of calcareous matter in the pineal gland. Six of the pieces are each as large as a good sized pin's head. The blood-vessels at the base of the brain, are as much engorged as those in other parts. The membranes are bound together and to the brain throughout all parts of the base, by small threads. Cerebellum softer than the cerebrum.

CASE III.—B. B. S., a retired merchant, æt. 56, married, native of New York city, of medium stature, with black hair, gray eyes and sanguine-bilious temperament, having for two years been troubled by pecuniary difficulties, and thence depressed in spirits, at length manifested evident symptoms of insanity. Having attempted to commit suicide, he was brought to the Bloomingdale Asylum, December 29th, 1839. Although several of his family connections have been insane, yet it is said that this patient had none of the blood to which that predisposition appertains. The record at the time of his admission, states that he was quiet and tractable, but appeared to suffer from apprehension of evil, great nervous irritability, and constant vigilance.

After remaining in the institution about seven weeks, he was discharged *improved*, his friends taking him home on account of the decease of his wife.

On the 5th of June, 1845, he again became an inmate of the asylum.

During the long interval of his absence, his mental faculties had gradually failed, and his hallucinations become more vivid and permanent. For one and a half year of the time he had been under treatment at another institution.

At the time of re-admission, he was somewhat emaciated; his gait unstable; his muscular movements hesitating, directed with uncertainty, and when commenced finished with a certain degree of spasmodic celerity. The organs of speech participated in the two latter defects, and many of the words were imperfectly uttered. He called himself a bishop, claimed immense possessions, and said he was about to make extensive speculations in cotton and in stocks.

After this he gradually regained his strength and general physical health, without any particular medication. His mental faculties, however, did not participate in the improvement. If he heard an expression made by any person around him, he imagined that it was directed to him, or that he or his conduct was the subject of it, and hence frequently became irritated and exasperated. He declared himself to have control over the weather, and often passed several hours in guiding the clouds, or dispersing the fog. This was done by gazing intently at these vapours, and rubbing his chin with the energy of a zealot. The window of the gallery upon which his apartment opened, commanded a western prospect. On every clear day, as the sun was about to set, he "wound it up," in order that it might rise in due season on the following morning. The manipulation in this matter was as follows. He went to the window, and, keeping his eyes fixed upon the sun, gradually retreated to the opposite extremity of the gallery, which was about eighty feet long, giving his hands and forearms a circular motion around each other as if he were winding a line about them. This process was repeated until he was satisfied that the motion of the sun was secured for the ensuing twenty-four hours.

During the day, however, he continued to exercise his imaginary power over the luminary in question. He had ideal cords which were attached to it, and these he managed with all the dexterity of the boy who "flies" his kite with skill, or of him who pulls the wires of an automaton. Along these cords, as upon an aerial road, he frequently dispatched messengers to the sun. They generally travelled in carriages; he saw them distinctly as they mounted upwards, and would endeavour to point them out to the bystanders.

Even to the day of his death he saw numerous imaginary people around him; crowds on foot and in carriages; and he, the governor of them all, making mysterious gestures and shouting aloud in order to make their conduct consistent with his wishes.

The difficulty of speech and of motion did not greatly increase. General sensation was nearly extinct, so that towards the close of his life the most severe pinch upon the integuments of any part of his body was unperceived. Taste was so far impaired that he would drink a mixture of rhubarb and magnesia, in water, believing it to be wine. Audition was apparently perfect, and vision so good that, although upwards of 60 years of age, and notwithstanding the fact of his gazing so much directly at the sun, he could read fine print without the aid of spectacles.

In the winter of 1845-6 he became robust and plethoric. In March, 1846, he had an attack of diarrhœa, and another in April, the latter followed by most obstinate costiveness.

The blood now exhibited a strong tendency to the head, to obviate the danger from which he was several times freely cupped on the back of the

neck. In June he was better and appeared as if he would regain his general health; but in July he had another attack of diarrhoea which resisted all medication and terminated his existence on the 2d of August.

Autopsy twelve hours after death.—Cranium thick, of medium density, and containing about the ordinary quantity of diplœ. The dura mater is very strongly adherent to it, both superiorly and at the base. Over the anterior lobes it will tear off in laminæ before it will separate from the bone. The inner surface of this membrane looks like the mucous membrane of the stomach in cases of chronic inflammation of that organ.

For four inches along either side of the longitudinal sinus the dura mater is so strongly adherent to the subjacent membranes as to be separated only by dissection. The falx adheres by filaments, to both hemispheres. The dura mater removed, the blood-vessels, both arteries and veins, of the other membranes, appear highly injected.

The arachnoid, over all the superior and lateral surfaces of the brain, is thickened, of a milky aspect, in some places very thick and opaque, in others translucent. It adheres throughout to the pia mater, and on both hemispheres this latter membrane adheres to the brain beside the longitudinal sinus, upon the space where the dura mater was attached to the membranes beneath it.

The sulci are filled with serum, of which there was about three ounces. There was also another ounce at the base of the brain.

Nothing worthy of remark in the cineritious substance. The medullary matter is humid, apparently softer than natural, and the surface of its section, when cut, is strewed with many bloody points.

The lateral ventricles are distended with serum. The fornix is remarkably soft. Plexus choroides adherent through its whole extent to the subjacent surface. Velum interpositum thickened and its vessels congested. The pineal gland contains but one particle of calcareous matter and that is about the size of an ordinary pin's head.

On the base of the brain the arachnoid is slightly thickened, more so on the surface of the cerebellum. The cineritious substance of the cerebellum is pallid and apparently softer than that of the cerebrum. All the blood-vessels of the base of the brain are highly injected, and there are numerous small filamentous cords connecting the approximating surfaces of the pons varolii, medulla oblongata and the lobes of the cerebrum and cerebellum.

CASE IV.—Admitted August 4, 1845.—E. H., a native of Ireland, ætat. about 45 years, unmarried, a tailor by trade, but for some time past has followed the business of peddling. Stature short, hair dark-brown, eyes gray, temperament nervous-bilious. He has for a long time indulged in the pretty free use of intoxicating liquors. In the autumn of 1844 he had an attack of paralysis, from which it is said he entirely recovered.

He returned from a peddling tour about one month since, when it was discovered that his mind was disordered. He has been under no curative treatment.

State when admitted.—Tongue furred, the mucous membrane of the mouth and pharynx rugose and of a very deep red colour. His gait is unstable, vacillating, tottering. He speaks indistinctly, pronounces his words imperfectly, and, though penniless, esteems himself vastly rich.

He was placed upon an antispasmodic and alterative course of treatment, followed by tonics. All the symptoms of the disease continued to increase, and his general health rapidly failed. His speech was indistinct, many of

the words being but partially uttered; his legs partially paralyzed, making his gait unstable and tottering. Ulcers came out upon the legs and upon one hip, but the course of the disease was so rapid that there was no deep sloughing. At times he apparently lost his vision, as he would run about regardless of obstacles and of the walls of the room. General sensation was nearly destroyed.

A few days before his death he had an epileptiform convulsion, evidently caused by determination of blood to the head. For this he was cupped and relieved.

Another attack proved fatal on the 17th of September.

Autopsy.—*Head.*—The cranium adheres more strongly than is natural to the dura mater. It is thin; the furrows made by the blood-vessels of medium depth. The dura mater is firmly adherent to the upper part of the brain, particularly along the sides of the longitudinal sinus, where there are numerous small, white, granular substances. The arachnoid is thickened in nearly every portion of the cerebral surface, rather more so on the superior and the anterior regions, where it is pearly, semi-opaque or translucent. The posterior lobe of the cerebrum is nearly free from the pearliness. This membrane is also adherent, in some places, to the pia mater, and between them there is a considerable deposit of effused serum, three ounces of which ran from the brain during its dissection.

Pia mater thickened and anormally adherent to the brain. All the blood-vessels are turgid with blood.

The cortical substance is apparently normal, but the medullary matter, on section, is seminated with bloody points. It appears rather softer than is usual, and more pastelike in aspect. In the inter-hemispherical space, the membranes of the hemispheres adhere to each other above and anteriorly to the corpus callosum. One drachm of serum in each lateral ventricle, the brain being removed from the cranium before these ventricles were opened. The plexus choroides and the vessels about the lateral ventricles are anormally injected. No opacity of membranes at the base of the brain. The arachnoid is very slightly thickened in all parts of the cerebellum, but is free from opacity or pearliness.

Thorax.—Both lungs adhere to the thoracic parietes, particularly posteriorly. Lower lobe of both engorged and softened, with some muco-purulent matter in that of the right side.

One ounce of serum in the pericardium. The heart is of ordinary size, and covered with rugose vessels and depositions of lymph.

CASE V.—**R. A.** was a native and resident of the city of New York. His stature was medium, hair black, eyes chestnut, and temperament almost purely bilious. In youth he was wayward and unmanageable, and in manhood unsuccessful in business, disposed to squander, and addicted to "wine and women." In 1845 he became eccentric, but continued to prosecute his affairs, being in the business of auctioneer, until the last of December, when, having purchased some merchandise, and attempting to obtain possession of it before paid for, by breaking into the room where it was stored, he was seized and confined as a lunatic. On the 31st, he was brought to the Bloomingdale Asylum. He was then under what might be termed a "pleasurable excitement," thinking it amusingly absurd that he should be considered a fit subject for a lunatic asylum. He was emaciated, the skin and sclerotica quite sallow, tongue slightly furred.

After purgation with compound cathartic pills, he was placed upon alter-

ative doses of blue mass, which he took nine days. His tongue was now clean and moist, appetite and digestion good, and the jaundiced aspect of the sclerotica and of the skin had nearly disappeared. He was quiet, and a casual observer would perceive nothing peculiar in his condition, either physical or mental. He was anxious to return to his business; said that his remaining here would subject him to great pecuniary sacrifices; but he was satisfied to submit to the decision of his physician in regard to his leaving. With a good, perhaps an unnaturally excessive appetite, he continued to gain flesh, and in a few weeks weighed more than at any previous period of his life. His mental condition underwent no very material alteration. He always spoke of himself as an uncommonly good "business man," and at one time remarked, that although he had once failed he had succeeded in re-establishing himself, and was now worth "five thousand dollars." "Had I not been a man of pretty good talents," he added, "I could not have done this." The relation between these assertions and his disease can be understood from the fact, that his endorsers had been subjected to heavy losses on his account; that since his failure he had scarcely supported himself, and that at this time he was not worth enough to pay three months' board at the Asylum. Egotism was manifested in all his conversation, and in his manner there was a certain degree of self-satisfaction that bordered upon what is generally termed "swaggering." He joined with other parties in games, but was irritable, and likely to get into disputes with them. Whenever this actually happened, he thought his opponents were always in error, appeared to think that he could not be so, would complain of their abusing him in language, and then turn and abuse them to a greater extent than they had abused him. His rules worked but one way. Now, all this might occur in persons who are not considered fit subjects for an institution for the insane. Hence some of the people concerned in the management of the institution, and who associated daily with Mr. A., believed him to be well within two weeks after his admission. But Mr. A., from the time of coming to the Asylum, did not speak with perfect distinctness. There was a hesitation of expression, a mumbling of some words, and a dropping of the final syllable, of others. Yet even here a superficial observer would have perceived nothing wrong. The patient talked as well as many people whose speech is unaffected by disease. Again, notwithstanding his professed anxiety to return to business, and his impatience of detention, he acquired, as before stated, a weight of body to him unprecedented. And further, there appeared to be a general mental apathy—not, however, so great as to be perceived but by constant and prolonged observation. All these circumstances and symptoms, combined, led me to believe that the patient was incurably insane, and, in answer to a man who remarked that he thought Mr. A. perfectly well, to express my opinion that he would never again be able to attend to business, that he would become a violent maniac, with extravagant ideas of wealth and station, and finally die of *paralysie générale*.

A few weeks after this, and on the 7th of March, Mr. A. was seized with a slight numbness of the right arm and leg, the former being more affected than the latter. It lasted but a few minutes. On the 10th he was again similarly seized, the numbness extending to the tongue, which it so far affected that he spoke with very great difficulty. These attacks were treated by cathartics and free cupping on the back of the neck. He never had a subsequent attack that came to my knowledge.

In the latter part of April his friends determined to take him home, and

permit him to recommence business. Accordingly he left the Asylum on the 1st of May.

About ten days afterwards, he called at the Asylum in my absence, and left a note for me, by which I perceived that his writing was much poorer than formerly. The letters were much more imperfectly formed, and the lines more irregular. This I considered as a convincing proof that his disease was progressing.

May 23d. Mr. A. was readmitted, a turbulent and violent maniac, shouting and tearing his garments to tatters, yet happy in the idea that he was Vice President of the United States, and the possessor of unlimited wealth. He was much emaciated, pale and haggard, his eyes glaring with the height of maniacal expression. Pulse rapid and bowels costive. Speech more imperfect than when he left the Asylum, and a very apparent instability and faltering in his gait.

He was freely purged with calomel and jalap, followed by senna tea, large doses being required to affect his bowels. Soon afterwards a typhoid condition of the tongue supervened, which was relieved by the use of a julep, consisting of aqua camphor, tartarized antimony, and a small quantity of laudanum.

He still continued under high excitement. This was subdued by a mixture of ex. hyoscyami, tinct. camphor and tinct. assaf.

The bowels were at all times costive unless under the influence of laxatives.

By the tenth of June he had become comparatively quiet, but continued to emaciate, and his intellectual faculties were almost entirely destroyed. The appetite being poor he was put upon the use of a tonic vegetable infusion.

June 19th. Emaciation excessive, his weight probably not exceeding eighty pounds. Pulse 112; tongue slightly furred but moist; appetite poor; bowels costive, never being moved but by cathartics. Pupils of equal size, but quite small. A slight discharge of purulent matter from the nostrils. Gait faltering; a general defection of muscular action in all the limbs, as well as in the organs of speech. He says he is worth twenty-eight millions of dollars and weighs twenty-eight hundred pounds. Notwithstanding his feebleness, when left at liberty he is "full of mischief," displacing every movable upon which he can place his hands.

July 1st. All his symptoms have increased. It is with difficulty that he rises from his bed, though he still sits up most of the day.

The left arm, leg and cheek are slightly paralyzed; tongue and lips drawn somewhat towards the right side. No œdema. General sensation much impaired. He says he is worth five hundred millions of dollars, and can run a mile in four minutes. Everything around him appears gorgeous. His clothes are splendidly decked with diamonds, his bed and the walls of the room ornamented with gold and various precious stones.

Under the use of small doses of quinine his appetite was restored, but the nutrition afforded by digestion was insufficient to prevent emaciation. About the middle of July his feet became œdematous, and continued increasingly so until his death. Nearly the same time he was attacked with diarrhœa, which also persisted until he died, being several times temporarily subdued by medicine. On the 26th of July general sensation had become so obtuse that he could not feel the most severe pinch upon any part of the body or limbs. Taste and smell were also apparently destroyed. The partial paralysis of the left side, mentioned on the 1st, had become

less apparent, though the general defection of muscular action remained undiminished.

Aug. 14th. Feet very œdematous, hands somewhat so. *26th.* The diarrhœa has worn much upon him during the last few days. He is extremely emaciated, and is very filthy in his habits, as he has been for several weeks past. The right arm is almost completely paralyzed, and the right leg partially so. He is not, and has not been, sensible of any pain; says he has everything he wants, and is perfectly happy.

The cuticle of the left leg, throughout a space of about six inches from the malleoli upwards, is detached from the dermis, which, with the subjacent flesh, is very dark-coloured, and appears as if about to slough.

Aug. 27th, the patient died.

Autopsy fourteen hours after death.—Head. Integuments devoid of blood and pretty closely adherent to the cranium, which is very hard, of rather more than ordinary thickness, and contains the usual normal quantity of diplœe. The courses of the blood-vessels are not preternaturally deep upon its inner surface. It adheres pretty strongly to the dura mater, but is removed leaving the latter in situ. The dura mater adheres, by filaments, to the subjacent membranes in several places on the superior surface. Upon a space three inches in length and from half to three-quarters of an inch in breadth, on each side of the longitudinal sinus, along the vertex, the adhesion is so intimate and strong as to be separated only by dissection. Over the sulci the arachnoid is elevated by intermembranal effusion. This membrane is thickened and somewhat opaque, or of a pearly hue throughout, with the exception of spots, which are perfectly opaque. These are mostly on the summit of the middle and posterior lobes and beside the medium line, on both hemispheres, where the adhesion to the dura mater was the strongest.

All the blood-vessels are anormally injected, the veins more so than the arteries.

The arachnoid and pia mater adhere to each other in all parts, excepting the spaces over the sulci. The pia mater adheres, by numerous small filaments, to the brain. The whole mass of the brain is moist, as if œdematous, and apparently softer than natural. The cortical substance is apparently of the ordinary quantity and colour. The medullary matter is of rather a dingy white, and upon being cut the surface of the section is strewn with numerous bloody points. The lateral ventricles are distended with serum. The pineal gland contains four particles of calcareous matter, two of them of the size of an ordinary pin's-head. The fornix and its adjacent parts, including a portion of the corpora striata, are much softer than in health.

At the base of the brain there is some serum, and the dura mater, in some places, is attached, by filaments, to the other membranes.

The arachnoid is slightly thickened. It is thickened and semi-opaque over all the surface of the cerebellum, which organ is softer than the cerebrum.

The whole quantity of serum in the lateral ventricles, at the base of the brain, and between the membranes of its superior and lateral surfaces, was about four ounces.

CASE VI.—H. C., of Philadelphia, aged 42 years, having blue eyes, hair very light and silken, temperament sanguine nervous, stature below mediocrity, a slight frame, and constitution of medium strength, came under

my care, in association with another physician, on the 21st of May, 1840. He was married and had children, and was engaged in the retail trade of dry goods. His previous health had generally been good, though he was somewhat subject to "bilious disorder and dysentery." He had a brother insane.

Mr. C. was now labouring under a mental disorder, which was first manifested about three months before, and had gradually increased. Though naturally active, he had become more so, and in his ardent pursuit for property he entered into ill-judged and imprudent speculations, by which he imagined that he made great profits, when in reality he suffered pecuniary loss. He talked inordinately and chiefly upon his contemplated schemes for accumulation. His friends assigned no cause for his disease other than his devotion to business. It is believed that he was temperate in his habits.

He had been bled, both generally and locally, and had taken cathartics. No perceptible impression, however, had been made upon his mental disorder.

Present condition.—Pulse 80; remarkably full and strong. Impulsion of the heart forcible, accompanied by a rude and nearly continuous sound, like the *bruit de rape*. Tongue slightly furred, appetite voracious. Pupils very small; temperature of the head unnaturally high, particularly in the region of the vertex. He has no headache. He is in very pleasant humour, and talks much and extravagantly about his business. His gait is feeble and slightly faltering. When sitting he has a slight involuntary spasmodic motion of the body, laterally and in other directions.

Sixteen ounces of blood were taken from the arm, and he was placed on vegetable diet. On the following day he was cupped *ad nucham*, and put upon the use of a pill of opium, digitalis, and calomel. On the 25th, the pulse still being rapid and full, and the pupils much contracted, he was again bled to the extent of ℥xvii , and ordered to use the cold water douche upon the head three times daily.

28th. Pulse less strong, but rapid. Skin quite yellow; mental condition unchanged. The pill was now stopped and tinct. digital. ℞xx t. d. with mass ex. hydrargyri gr. j t. d. given.

June 1st. Pulse 90, smaller than before. Cephalalgia of the right side near the summit.

15th. Pulse 84, more compressible. The temperature of the top of the head is always too high. He was cupped in that region on the 9th and 13th. He sleeps well. He writes much, but very illegibly; before he became insane he wrote an excellent hand.

20th. Pulse 78, full but easily compressed, imparting a peculiar thrill to the finger. The pulse is easily felt in the arteries of the fingers and in many parts of the body, where it is impossible or very difficult to feel it in most people.

The systole and diastole of the heart appear to be a continuous sound, being united by a sound half way between the *bruit de soufflet* and the *bruit de rape*.

P. M. At $11\frac{1}{2}$ o'clock, this A. M. I was called to his room and found him dead; the position of the body such as showed that he had died without the slightest struggle. He was as well as usual at 10 o'clock, when he was walking in the garden.

Autopsy twenty-three hours after death.—Limbs of medium rigidity. Integuments chalky white. Scalp remarkably mobile on the cranium. A deep discoloration of the cellular tissue along the sagittal suture.

Cranium.—Thickness medium; density great; no dioplœ but in a small part of the temporal bones. Its adhesion to the dura mater is slight. The dura mater lining the sides and base of the cranial cavity is of a pink colour, by bloody injection. On the summit of the right hemisphere, beside the longitudinal sinus, there is a spot the size of a cent presenting numerous small elevations, appearing vesicular through the microscope, the surrounding area having the aspect of ecchymosis. They appear to involve the three membranes, the dura mater being very thin. There is a similar spot of half the size on the top of the left hemisphere. There are adhesions of the membranes along either side of the sinus, but they are stronger beneath these two spots than at any other point.

The arachnoid is thickened along the sides of the falx, and particularly on the vesicular spots. The pia mater is anormally injected; it adheres to the brain in the vesicular spots.

The sulci are unusually shallow. There are one and a half ounces of serum at the base of the brain.

The corpus callosum is so soft as to be torn asunder by the gravity of the brain, as it lies upon a board. The posterior commissure so soft as no longer to retain its form.

The corpora striata and thalami nervorum opticorum are softened, and the enveloping membrane injected. A small quantity of serum in the lateral ventricles. Velum interpositum very much thickened and engorged. Posteriorly to the decussation of the optic nerves, and partly thrown around them there is a quantity of matter of the consistence of thin cream, containing particles of greater solidity. It appears like the result of an abscess, involves the infundibulum, and extends into the third ventricle. The neighbouring parts are more or less disorganized, particularly on the right hemisphere, where the anormal condition extends to the crus cerebri. The medullary matter of the cerebrum is apparently normal.

Thorax.—Pericardium distended; it contains two ounces of bloody serum. Heart; length five and three-quarter inches, circumference at base eleven and a half inches: all of its parts are hypertrophied. The valves of the right auriculo-ventricular opening do not appear to be sufficiently large to close it, owing to its anormal enlargement. The mitral valve is partially degenerated into a fibro-cartilaginous substance. The parietes of the left ventricle are so soft that they yield to pressure between the thumb and finger, like the substance of the liver, and with about the same ease.

Abdomen.—**Stomach.**—The mucous membrane of the great curvature is thickened and injected. It is also softened throughout the cardiac half.

Liver.—Length, nine and a half inches, breadth seven inches, thickness three inches. Right lobe uncommonly large compared with the left, and its substance anormally friable. No other pathological lesion observed in the abdominal organs.

N. B. Whenever the thrill of the arteries was present in this case there was a *fremissement cataire* in the præcordia. The patient slept comfortably without elevating his head; his feet never swelled, but he was troubled with frightful dreams.

CASE VII.—W. W. was a native of England, (resident of Brooklyn, New York,) and followed the business of hosiery merchant. He was 42 years of age, married, of medium stature, hair very dark brown and curly, eyes blue, temperament lymphatico-sanguine bilious, intellect above mediocrity, disposition mild and benevolent. He is said to have been industrious

and attentive to business. He had long been accustomed to the use of porter, wine, and occasionally distilled liquors, but he rarely drank to intoxication.

After having indulged pretty freely, he was taken to the New York Hospital, labouring, as his friends asserted, under delirium tremens. After a few days residence there, he was transferred to the Bloomingdale Asylum, March 15th, 1845. His face was then pallid, and the expression somewhat sad. Tongue slightly furred; skin feverish; pulse quick and nervous. He was quiet and orderly in demeanor, but labouring under religious enthusiasm. He believed the millennium to be near, and that it was ordered by Heaven, that he should live a thousand years, and act as the agent of England in bringing, by force of arms, all the nations of the earth into the enjoyment of peace and religion. He was disposed to make poetry, and if requested, would either write or repeat extemporaneously any quantity of it. It was more remarkable for rhyme than for reason, or coherence of ideas. It was said by his friends, that he had manifested some aberration of mind for about one month, but it is probable that the disease commenced at an earlier period. It was attributed to pecuniary difficulties.

He was put upon a mixture of vin. antimonii and tinct. digital., to which, as a slight coat of fur still adhered to his tongue, there was added, on the 3d of April, mass ex hydrarg. gr. j t. d. Under this treatment he rapidly improved, and was removed from the asylum, by his friends, on the 23d of April, apparently very nearly well.

Returned to his former associations, he began to indulge his appetite for malt liquors, and this, with the excitement of business, brought on his disease with greater severity than before. On the 3d of May he was again admitted. He was then excited and noisy; the pulse quick and nervous; tongue furred and pasty.

He now rapidly grew more violent, noisy and destructive, and was removed to a strong room. His tongue became covered with a dense, strongly adherent and paste-like fur; he lost his appetite; the pulse was rapid, but small and nervous, so that it was not deemed prudent to bleed, either generally or locally. He was freely purged with calomel, gamboge, and rhubarb, and then put upon alterative doses of blue mass, in combination with hyoscyamus, aqua camphor, and assafetida. The general state of his bodily health was in a few days much improved, and his excitement partially quelled. By the 1st of June, his appetite had become voracious, and his bowels regular in their action, but the tongue always remained covered with the pasty coat. The excitement soon afterwards returned, and there being a strong tendency of blood to the head, he was freely cupped on the back of the neck. This was of but temporary benefit, and the excitement could only be partially subdued by morphine, which was administered for some time.

During all this time he was destructive, tore the plastering from the walls, stripped open his bed nearly every night and scattered the straw about the room, and would have torn his clothing had his dress not been of the strongest materials. His limbs were never confined by restraining apparatus. He talked incessantly, claimed to be Deity, and when out of his room was continually mischievous, putting everything movable out of its place. About the 1st of July he had a severe attack of diarrhœa, which was subdued by the chalk mixture.

On the 1st of October he was removed from the asylum, but brought back again on the 19th of November, having had his arms confined

during the whole period of absence. His disease was progressing. He was highly excited; pulse rapid; vessels about the head turgid; tongue furred and pasty; pupils small, as they always had been, from the time of his first admission. He called himself God, and said he had paid the English government six millions of dollars. His gait, though hitching, and not very firm, was not much affected by paralysis. General sensation, however, was much impaired.

Cut cups were applied *ad nucham*, on the day of his last admission, and again on the following day. He was also placed upon a mixture of antimony and digitalis. This treatment was pursued from the fear of a fatal determination of blood to the head. His excitement, though mitigated, persisted, and on the 26th the antimony and digitalis were stopped, and tinct. opii gtt. xx ter in die prescribed. Under this treatment he was more quiet, but all the mental and physical symptoms above mentioned continued. His appetite was voracious, and there was soon a constant tendency to diarrhœa, which was several times treated as before. Towards the close of November, however, it became very severe and defied all medication. The patient rapidly emaciated, lost strength, was confined to his bed, and died on the 1st of December.

Autopsy twelve hours after death.—No rigidity of muscles. Integuments of the head devoid of blood. The cranium adheres strongly to the dura mater, particularly on the anterior lobes. It is very thick and hard, and its under surface deeply marked by the blood-vessels and the glands of Pacchioni. These glands project through the dura mater in several places. The dura mater does not appear to be thickened, but it adheres to the other membranes of both hemispheres along the sides of the longitudinal sinus, throughout the whole extent of the cerebrum, and over a space half an inch in width on either side. Near the vertex, these adhesions are very strong. The arachnoid is thickened and of a milky hue, or semi-opaque, over all the exposed surface of the cerebrum. It is the most so on the middle lobes. It is also somewhat thickened in several places at the base of the brain. Some effusion of serum between the membranes. The blood-vessels of the pia mater are somewhat injected, though not extremely so, excepting in the sulci. This membrane does not adhere to the brain. The arachnoid is strongly adherent to the pia mater, on the whole superior surface of the brain, excepting over the sulci. The cineritious matter appears softened under the adhesions on the vertex. Its colour generally appears natural. On a superficial section of the anterior lobes, the medullary matter has a rosy tint with some bloody points. Deeper down and throughout the cerebrum it appears more natural, but with some bloody points. No calcareous matter in the pineal gland. The corpora striata and the optic thalami appear to be somewhat softened. The arachnoid over the cerebellum is considerably thickened. The cineritious substance of the cerebellum appears to be unusually soft. About half a drachm of clear serum in each lateral ventricle, and one ounce at the base of the brain.

Lungs perfectly healthy; one and a half ounces of liquid serum in the pericardium; heart rather small. The serous membrane covering it, is partially opaque. Right auricle nearly filled with a whitish clot. Small clots of the same kind in the right ventricle, the pulmonary artery, and the aorta. Substance of the liver unusually firm; two ounces of bile in the biliary vesicle. The mucous membrane of the stomach is very much thickened and softened throughout, but most so along the large curvature, where it is much injected with blood.

CASE VIII.—J. B., an unmarried accountant, aged 37 years, short in stature, with brown hair, blue eyes, and bilious-nervous temperament, was born in England, where he remained until arrived at manhood.

He was from early life subject to the most severe headache, and to occasional depression of spirits. His general health was not robust, and he was for several years troubled with bleeding piles and prolapsus ani.

In 1843 he underwent an operation for the cure of the latter, but it was attended by but partial success.

In doctrines he was no conservative, but was ever seeking for *the new*. He early espoused the principles of Jeremy Bentham, and in later years, after his emigration to the United States, became a zealous follower of Robert Owen and of Fourier. When Mesmerism began to attract the attention of the public he was one of the first of its proselytes.

In the summer of 1845 he became eccentric, and soon afterwards manifestly insane. The mental disorder was thought to be hastened by the marriage, to another person, of a young lady to whom he was much attached.

He was under constant excitement, talking incessantly, Fourierism and Mesmerism entering largely into the *materiel* of his incoherent discourse. He imagined himself to be under the influence of Mesmerism.

On the 9th of October, 1845, he was brought to the Bloomingdale Asylum.

State on admission.—Bewildered, and apparently almost demented. Talks much and incessantly; has many very important things to say, but, upon being said, their importance is not so very evident. His utterance is imperfect. He is very restless, his head too warm, tongue coated, bowels constipated, appetite poor, pulse quick and nervous, pupils contracted. Before admission he had been bled, and had taken cathartics.

Free cathartics, calomel and jalap, followed by sulphate of magnesia, were now administered. Their effect was favourable, but in two or three days the excitement again increased, his tongue became dry and covered with sordes, and this condition was accompanied by other symptoms of a typhoid state. The following prescription was ordered. R.—Aquæ camphoræ ℥vj; ant. et potass. tart. gr. iij; tinc. opii ℥ss, to be given gradatim, so that the whole shall be taken in 24 hours. This was continued three days, when the symptoms to which it was directed had disappeared. He became much more quiet and rational, and his general health improved. He however imagined himself very wealthy, said he was going extensively into the ship-building business, and offered lucrative situations to his attendant and other persons. It was also his intention to marry Queen Victoria.

Before becoming deranged he had hemorrhoidal discharges periodically, but these entirely ceased after the invasion of the mental disturbance. On the 24th of October he had an epileptiform fit, from which he did not recover, until after free cupping from the back of the neck, and the application of a stimulating pediluvium. From month to month he now gradually became more talkative, noisy and mischievous; his gait grew feeble and faltering, and general sensation more and more impaired. His language was as incoherent as it is possible for language to be. He talked very rapidly—"run the words together"—but enunciated better than most patients labouring under this form of insanity.

On the night of the 7th of January, 1846, he tore his bed clothing into thousands of shreds, and with them tied pillows, bed and bedstead together, in a most singular and ludicrous manner. In doing this he really believed

himself engaged in some useful occupation. It now became necessary that he should wear clothes of such material and so strongly made, that he could not easily destroy them, and during the last two months of his life his hands were confined at night. In the day-time, unless deterred therefrom, he was constantly putting things in disorder, pulling up grass in the yard, and picking up pebbles, chips, shreds of cloth, straw, &c., and putting them into crevices, or strewing them about the floor of the ward in which he was placed.

He took Lugol's solution of iodine from December to March, part of the time in combination with a small quantity of tinctura opii. A strong tendency of blood to the head was observed to occur periodically, at intervals of about a month; and ever after his first "fit" at these times he was cupped upon the back of the neck. His life was thus undoubtedly prolonged.

On the 27th of June, 1846, he had another fit, more severe than the first, but was restored by the same means as before.

After this he failed more rapidly. His feet and legs had already become œdematous. The œdema now appeared in the face; a large sloughing ulcer was formed on the right hip; his appetite, hitherto good, and at times voracious, diminished; a diarrhœa was established and he died on the 28th of July.

Autopsy.—Head.—The integuments are nearly bloodless, cranium unusually thin, and of ordinary density. Dura mater strongly adherent to the cranium over the superior portion of the anterior lobes. This membrane appears of its natural thickness. It adheres strongly to the subjacent membranes of both hemispheres, upon a space half an inch in width and five inches long, upon either side of the longitudinal sinus. This space is wholly anterior to the "crown" of the head. The adhesions are by strong, short, fibrous bridges, around which are deposited numerous small, white, granular bodies.

The veins of the superior portion of the cerebrum are fully distended with blood; the arteries do not apparently differ much from the natural condition.

The arachnoid membrane is thickened, of a milky hue and semi-opaque, or translucent, over all the surface exposed by removing the cranium. It also adheres to the pia mater throughout this space. There is considerable effusion of serum between the membranes in the sulci. In the region where the dura mater was the most strongly attached to the membranes beneath it, the pia mater adheres in some places to the brain. It also adheres in some other parts of the superior surface.

The cineritious substance is darker than usual; the medullary is of a dingy white, moister, and rather softer than in health, and when cut the surface is immediately strewn with many bloody points, though they are not so numerous as in some of the similar cases.

The posterior two-thirds of the corpus callosum and the whole of the fornix are much softer than in health, pulpy, and of the consistence of cream which is barely thick enough to retain a form into which it might be shaped.

The lateral ventricles are distended with serum. The velum interpositum adheres by filaments to all the surrounding adjacent parts. The pineal gland contains a few very small particles of calcareous matter. The superior part of the corpora striata, as well as the tubercular quadrigemina, partake in the degeneration of the fornix and corpus callosum.

At the base of the brain the arachnoid membrane is thickened, and semi-

opaque around the pons varolii and the cerebellum. The blood-vessels are rather highly injected. The cerebellum appears somewhat congested and softened. The whole quantity of serum is three ounces.

CASE IX.—P. V. G., aged 28, married, native of N. Jersey and resident of N. York City, was admitted into B. Asylum Oct. 15, 1845. He was tall, had dark-brown hair, blue eyes, and a nervous sanguine bilious temperament. He was naturally irritable and passionate, but it is said that none of his relatives were ever insane. He had held subordinate offices in the Custom House, and under the City government, and hence became much interested in politics. He was a free liver, though not subject to habitual intoxication. In the spring of 1845 he became insane, his friends attributing the disease to political excitement and disappointment in not obtaining an office in the Custom House. The first act which led them to suspect mental derangement was, his ordering several carriages to give his family and friends a ride, and giving them no intelligence of it until the carriages were at the door. Soon after this, his conduct became such as made it necessary to seclude him, and he was taken to the Lunatic Asylum on Blackwell's Island. After remaining three or four months in that institution, he was transferred to Bloomingdale.

State on admission.—Gait unstable, faltering; fingers, and sometimes the whole hand frequently moved involuntarily. Speech hesitating, difficult, and some of the words imperfectly uttered; right pupil much larger than the left. Appetite good, tongue natural. His urine is discharged involuntarily. He imagines himself to be very wealthy, and says that he is President of the United States.

His mental condition, while here, was as follows. During the first few days he said but little. He then grew more talkative, irritable, and "cross." He frequently said that the women came to his bed in the night and annoyed him, and that the attendants came also under assumed names, and conspired against him. One morning he asserted that he "always knew everything that occurred, day and night, in all parts of the globe," and again, he boasted of having "swept hell last night."

Near the latter part of December, his imaginary official dignity was essentially augmented. He now claimed to be both President and Vice President of the United States. He had "sent Polk to Tennessee, and Dallas to Pennsylvania," and was enjoying, in his own opinion, undisturbed possession of the two highest executive offices of the country.

A change most agreeable to the comfort of those about him now took place in his temper and disposition. Henceforth, during the remainder of his life, he was always mild, good humoured, cheerful, and "as happy as a king,"—probably more so than most kings. He distributed offices of honour and profit to his physician, attendants, and fellow-patients. One he made collector of the port of New York; another, postmaster; and to others he was lavish of subordinate posts. Whenever he was puzzled to specify any situation for a favourite, he contented himself by telling the latter that he "should have a fifteen hundred dollar office." He "fared sumptuously every day," his dinners being served in a style which he termed "tall arrangements," with "champagne in plenty, and nothing but anchor brand."

He read the newspapers with much satisfaction; but in February his vision became impaired, insomuch that he could not read without spectacles. Henceforth there was no particular change in his delusions. He died believing himself both President and Vice President. In allusion to

the first two initials of his name, he said that P. stood for President and V. for Vice President. During the last two months of his life, he was more noisy, talked much in a very loud tone, and sometimes shouted; but he was always happy, always had everything he wanted, and invariably told his family that he did not wish to be removed from the Asylum.

It may be remarked, that his physical condition was such that it was necessary to keep him in the ward for the worst class of patients. His contentment was the result of the disease, a disease which gave him imaginary dignities, and painted everything about him "*couleur de rose*."

His ideas of sumptuous fare and champagne, were undoubtedly in part owing to the impairment of the sense of taste.

His physical symptoms and treatment remain to be noticed. Soon after his admission he was put upon the use of tinc. fer. mur., which for a time restored the healthy action of the sphincter of the bladder. The power was, however, soon lost, and was never again restored. In the latter part of November his feet and ankles became much swollen by œdema, and soon afterwards this condition extended to his hands. From this, relief was obtained by the use of jalap and cream of tartar, but the condition soon returned, and, excepting occasional relief in the same way, continued through life. On the 10th of December, the muscular action of his left arm was very defective; a state of semi-paralysis. The left leg was also slightly affected. This condition of the limbs subsequently improved, but returned again, so that in March it was worse than in December. On some days, the right side appeared nearly as defective as the left. General sensation was almost entirely extinct, so that the most forcible pinch of the integuments of any part of the body was unperceived, or, at most, barely perceptible. The stability of his gait became more impaired as the disease progressed. At one time he could scarcely walk; but in this respect he also improved, and during most of the month previous to death he walked pretty well, yet not nearly so well as when admitted.

In January, 1846, a large sloughing ulcer formed upon the right leg, commencing three inches above the external malleolus; and another on the hip over the trochanter of the same side. The latter healed, after remaining open several months; the former was much reduced in size, but never entirely healed.

The right pupil was always larger than the left, but it was thought to be most nearly in the natural condition.

The defect in speech increased during his residence here.

On the afternoon of the 5th of August, he had one of the most severe convulsive fits that I ever witnessed, the spasms being far more violent on the left side than on the right. After copious bleeding from the arm, and from the right jugular vein, he revived, but there was such a state of palsy that he was not subsequently able to stand. On the 6th, he could talk, but there were frequent, slight convulsive movements of the limbs. In the night he became vociferous, and threw himself about upon the bed, in great agitation. This state continued over the 7th, his mind being, however, tranquil, and as happy as ever. On the morning of the 8th, there were no convulsive movements, but all his motions were feeble, hesitating, spasmodic, and directed with uncertainty. The left side was more affected than the right. He could, however, by great and protracted volition, raise the left arm. Sensation entirely extinct. He died on the 9th.

The only regular curative medical treatment practised in this case, was

a course of strychnia. As no beneficial results accrued, it was stopped about two months before his death.

Autopsy twelve hours after death.—Head. Vessels of integuments considerably injected; blood flows from them. Cranium very thick anteriorly; three-fourths of its thickness is *diplœe*. The impressions of the blood-vessels and of the glands of Pacchioni are very deep. Dura mater adherent to the cranium, superiorly, posteriorly, and at some places on the base.

The glands of Pacchioni are very large and prominent, some of them projecting through the dura mater. The vessels of this membrane are filled with blood, and their walls much thickened. Surrounding the glands of Pacchioni, are patches having an ecchymotic aspect and covered with the remains of the adhesions to the skull. The dura mater is free from the membranes beneath, excepting at the summit of the two hemispheres, where, for three inches along the longitudinal sinus, it is so strongly adherent as to require dissection. This membrane removed, the blood-vessels of those beneath it appear fully distended with their contents, the arteries so much so as to give a vivid vermilion colour to the whole surface of the brain, excepting in the course of the veins, which are nearly black. The arachnoid is everywhere thickened, and has a slight pearly aspect which is greatest on the anterior lobes. It is adherent to the pia mater in all parts excepting the spaces over the sulci. These spaces are filled with serum, particularly in the superior and posterior regions. The pia mater adheres so strongly to the brain, in many places, as, when removed, to take portions of the cortical substance with it. The cineritious substance appears to differ little, in colour and consistence, from its natural state.

The medullary or white substance also appears of its normal colour. It is somewhat moist, and on being divided, the surface is strewn with many bloody points, more than in most cases, fewer than in some. The lateral ventricles are greatly distended with serum. The plexus choroides adheres to the subjacent membrane throughout, and contains a large number of hydatiform vesicles.

The fornix is somewhat softer than in health. The velum interpositum and all the membranes beneath the fornix and around the tubercula quadrigemina are thickened, opaline and connected with each other and with the adjacent parts by filamentous adhesions.

The arachnoid of the base of the brain is slightly thickened and partially opaline or of a milky hue throughout. The blood-vessels are thickened and cartilaginous in all parts of the brain.

The optic thalami and corpora striata appear healthy. If they partake in the softening of the fornix, it is but slight. Cerebellum softer than cerebrum.

About four ounces of serum at the surface, in the cavities, and at the base of the brain.

CASE X.—S. W., a native of New York City, with hair and eyes nearly black, and a sanguine bilious temperament, being married and engaged in a lucrative retail business, became insane at the age of 33 years. He had previously suffered from dyspepsia, from which he had recovered. The first evidences of mental disorder were inattention to business, and an inability to understand the true value of his articles of merchandize. These were soon followed by extravagant ideas of wealth, and schemes as absurd as magnificent for the increase of his fortune.

On the 17th of January, 1844, a few weeks after the first manifestations of mental disease, he was brought to the Bloomingdale Asylum. His pulse was frequent, tongue furred, bowels regular. Some headache.

During the first few weeks his habits were very filthy; the urine and feces being passed in his bed at night, and in his clothes during the day. He perceived and acknowledged this defect, but could not amend. He was treated with cathartics, followed by tonics; and an occasional opiate, as he was wakeful and noisy at night.

On the 1st of April, when I became connected with the institution, he was much as before described, except that his habits in regard to cleanliness had improved. He was merry, talkative, frequently singing, writing an abundance of what he called poetry, and engaged in the composition of a biography of his father. A specimen of his "poetry," included in a letter to his wife, will exhibit the condition of his mind, and obviate the necessity of making any extracts from the "biography."

"Bloomingdale Asylum.

"DEAR WIFE,—It was only yesterday I wrote to giving the the letter to Mary to place in the Post office to be forward to you at & at the care of your dear father. I hope you have received it with many others that I have sent you to inform you that my love for you is still & strong as ever it is and I know will continue so untill death seperates us so do not delay in answering the many epistles & letters I have written to you for you cannot imagine how happy to define my mind and love of duty defined in truth and purity coerced in native truth, devised in naive love and duty edified by hope and purity described in mind & qualified in kind sanctioned in love & piece and duty to truth f defined in Beauty nullified in kind elevated in mind truth defined in love defined in truth & hope edifying me.

"Poetry to — my dear wife
Dearly do I love this mind
So kind in duty allied to mind
Elevated in hope & truth allied to youth
Sanctioned in hope & purity edified
In sanctioned in kind & hope & purity
Fortified by hope & truth annelled by hope
Defied in truth & mind seduced in hope
And kindness edified in hope & hope eradicate
For truth enlivens the mind to duty & kind
For truth and purity is defied
In mind and truth qualified in truth
Sanctioned in the mind with duty allied in mind
Well qualified with truth & mind
Coerced in truth & duty thus denied."

Under the use of conium and iron his appetite increased and at length became voracious. He gained flesh rapidly, and became plethoric. His habits improved, and in June he kept himself genteelly dressed, and would converse very rationally upon many topics. Meanwhile he continued his poetical compositions, and indulged in all kinds of extravagant schemes connected with wealth and travelling. Sometimes he was about to build a ship for his private use; again he was going to sail "to-morrow" for the Mediterranean—rich as Cæsus.

In July he began to fail. He lost flesh suddenly, as if it had been œdema; general sensation became impaired; when walking his limbs would suddenly give way under him, and he would fall nearly to the ground before recovering himself. The pupil of the left eye was twice as large as that of the right eye. His compositions became, if possible, more incoherent and devoid of sense; his handwriting, originally very good,

gradually depreciated, grew less and less legible until it became nothing but a succession of waving marks, thus ~~~~~~. He wrote long letters to his friends in this way, believing them to be written perfectly well. His speech became much affected, many syllables, and occasionally a whole word being dropped, and frequently, in attempting to speak, he hesitated until, by a vigorous and prolonged effort of volition, he was enabled to begin.

As the disease progressed, he occasionally became violent, when he broke glass and furniture. At times it appeared as if he were blind, as he would run against the sides of the room as if there were no obstruction there. Being in the yard, he attempted, by a single leap, to clear a ten foot wall—everything, in his estimation, being within the limits of his power. In this attempt, however, his face hit the side of the wall, and the concussion was such as to separate, to a considerable distance, the *ossa nasi*. The integuments covering them were also divided. His system was in such a condition of cachexy that this wound was followed by inflammation, suppuration, and erosion of the soft parts, until there was a large opening into the nasal cavities.

His feet and legs became oedematous; he lost his appetite and emaciated rapidly. The slightest abrasion of skin was followed by deep, incurable ulcers. His language was obscene. He felt perfectly happy, and was richer than at any previous time. Millions of dollars in stocks, were in his possession, and innumerable houses and lots in New York, to say nothing of countless bags of gold.

In August he was removed from the Asylum, but his friends found him so unmanageable that they brought him back, after being absent but about a week.

His disease progressed apace. Ulcers, without any previous wound or abrasion of the skin, came out in all parts of his body and limbs, and, sloughing, left the tendons, ligaments and bones perfectly bare. The whole of the sacrum was thus exposed, and the glutei muscles became mostly detached, so that they could be lifted from the bones beneath them. All the tissues of the body seemed degenerated. A foul pus was constantly running, not only from the ulcers, but from his nose and ears. He died on the 3d of September, the most nearly a complete mass of corruption that I have ever seen, at the time of death.

His fancied wealth continued to the last, and nearly every morning he expatiated upon the great speculations he was going to make "on change" during the day.

No autopsy.

CASE XI.—J. W., an unmarried German, æt. 29 years, short in stature, with light-brown hair, chestnut eyes, and sanguine nervous temperament, became evidently insane in May, 1844, though it is probable that the disease had been in a gradually progressive incipient stage for some time previous. He was unusually talkative and excitable; imagined himself married; indulged in wild schemes of business, and, although worth nothing, declared that he should soon accumulate a vast fortune by the manufacture of printers' ink. This fortune he intended to distribute among all his acquaintance, rendering them both independent and happy.

While entertaining this favourite idea of fortune and benevolence, he lost the power of application to labour, and was brought to the Bloomingdale Asylum in July, 1844. His general health was then apparently not

greatly impaired, with the exception of a somewhat morbidly excessive appetite, and a plethoric habit. The pupils of his eyes were of unequal size, the left being much the larger. His gait was unstable, somewhat faltering, and accompanied by a general tremulous motion of the whole frame. He was very merry and happy, wished to marry every woman whom he saw, talked much, and said he should soon make five hundred thousand dollars in his business. When this should have been accomplished he intended to go to England to marry Victoria.

After depleting measures had been pursued, he was put upon the use of the extract of conium. His condition did not materially change until the 1st of September, when he became very highly excited, raving, furious, and unmanageable otherwise than by confining his limbs. He screamed, cursed, kicked every one who came near him, and, if alone, threw himself on the floor and against the walls of his room with dangerous violence, until prevented by the restraint aforementioned. His face was deeply flushed, eyes wild and glaring.

Depletives, counter-irritants and alteratives were resorted to, but without success, and he died on the morning of the 5th, with every symptom of effusion on the brain.

There was no post-mortem examination.

ART. VIII.—*Contributions to Pathology; being a Report of Fatal Cases taken from the Records of the U. S. Naval Hospital, New York.* By W. S. W. RUSCHENBERGER, M. D., Surgeon U. S. Navy.

CASE I.—*Albuminuria.*—Mr. W——, Purser U. S. Navy, ætat. 45, admitted October 2d, 1846. Mr. W—— has been suffering in health during the past eighteen months. His aspect is unhealthy; skin and lips pallid; limbs wasted, gait tottering and uncertain; impatient of repose; vision very much impaired and not assisted by the aid of spectacles. Temperament decidedly nervous.

While at Turon Bay, Cochin-China, in May, 1836, Mr. W—— was seized with dysentery, at that period prevalent on board of the ship to which he was attached. On the 18th of May he was attacked by a tertian intermittent, accompanied by diarrhœa, and abdominal tenderness. He had three paroxysms. On the 27th the ship arrived in Macao Roads, and the next day Mr. W—— was transferred to a hospital on shore, opened for the accommodation of the many sick belonging to the ship. A few days after, he had so far recovered that he visited Canton on business, where he had a return of diarrhœa. On the 19th June, while returning in a "fast-boat" from Canton to Cumsing Moon, he had a chill, which recurred again on the 23d. The ship put to sea on the 24th, and on the 20th of July anchored at the Bonin islands, in the Pacific. By this time, the affection of the bowels was very much abated, but from indiscretion in diet, having found an abundance of green turtle, the diarrhœa recurred on the 22d, and the intermittent on the 27th of the same month, at sea. The disease continued more or less violent until the 9th of September, when Mr. W—— was moved on shore at Honolulu, Sandwich Islands, and on the 12th was carried up to an elevated situation in the country. On the 8th of October

he returned on board very much improved, and the ship sailed the next day. While at Monterey, Upper California, he seemed to be quite well, but from eating indiscreetly and freely, the diarrhœa returned and his condition became worse with the increase of atmospheric temperature as the ship moved south, until he was so enfeebled as to be unable to rise from bed. At San Blas, on the 18th November, he was landed and carried in a ship's cot fifty miles, to the city of Tepic. There he so far recovered, at the end of six weeks, that he travelled on horseback to the city of Mexico and thence to the United States. He afterwards performed the cruise of the Exploring Expedition under command of Captain Wilkes, and, with the exception of dyspeptic attacks, enjoyed fair health.

In the year 1843 he complained of inability to sleep comfortably from eructation, and the frequent necessity to micturate at night. From this he sought and obtained partial relief from the use of the alkaline carbonates, warm bathing, opiates, &c. In the autumn of 1844, he had a violent attack of palpitation of the heart, and since then was unable to ascend stairs without occasioning palpitation and dyspnœa. In February, 1846, he had severe rheumatic pains of the shoulders and elbows, accompanied by a profuse secretion of pale urine. In the summer of 1846 he visited the White Mountains, and afterwards the Virginia Springs, in pursuit of health; but in September he complained "I have very short breath and palpitation of the heart, swollen ankles, and I am very weak." On the 12th September he had an apoplectic attack, and remained insensible for several hours. On the 25th he reached Washington and thought himself much better. On the 30th, at Baltimore, he was obliged to take to bed again from dyspnœa and palpitation. He was relieved by the use of assafœtida, digitalis, and hydrocyanic acid.

He reached the hospital about 3 o'clock P. M. very much fatigued by the journey from Baltimore. During the past three or four months he has suffered from vomiting, very soon after eating; but is always ready to eat again immediately after the stomach is empty.

October 3d. Passed during the night, say in fifteen hours, fifty-three ounces of pale amber-coloured urine, sp. gr. 1.015; reddens litmus; nitric acid produced a precipitate which was at first white but became pinkish in a few minutes: rendered turbid by boiling; the chloride of magnesium produces a dense white precipitate; neither ammonia nor the oxalate of ammonia produce any change. Bowels constipated; pulse 80, compressible, regular; tongue coated; no palpitation or pain about chest, although the impulse of the heart is strong and is felt two inches to the left of the nipple. Laxative pills; barley water for drink.

4th. Bowels not moved; acidity of stomach with eructations. Magnes. calcin. ℞ij; sodæ bicarb. ℞j. M.

The total quantity of urine voided in twenty-four hours, was forty-seven ounces: it was of a pale amber colour; nearly neutral; insipid and odourless; sp. gr. 1.010; a solution of tannin renders it milky, but its transparency is restored by adding acetic acid. Boiled down to one-half, there was a copious white, granular precipitate. Ammonia produces a precipitate which, under the microscope, consists of stellar crystals. Boiled in a silver spoon with liq. potass. the colour is deepened. The precipitate produced by boiling was incinerated in a platina spoon; the result was only a thin black pellicle. A little of a solution of sulph. cupri added, and then liquor potassæ in excess produced a greenish-gray precipitate.

At bed-time two laxative pills.

5th. Passed a good night; forty-three ounces of urine, sp. gr. 1.013; albuminous. Bowels moved, evacuation sciballous; laxative pills at mid-day, and two at night. Stomach rejected veal broth.

6th. Bowels not moved; urine albuminous, sp. gr. 1.010. Two enemas, and three drachms of calcined magnesia taken in three doses without effect. Stomach irritable; no tenderness or pain of abdomen. Cannot remain quiet. *P. M. R.*—Proto. chlor. hydrarg. gr. ij; ext. colocynth. comp. gr. iv. *M. ft. pil. ii, h. s. s.*

7th. Bowels freely moved; feels more comfortable; cheerful. *R.*—Oxyd zinci gr. j; ol. valerian gtt. ss.; ext. belladonnæ gr $\frac{1}{2}$ cap. q. q. 6ta hora. Diet milk toast and black tea; yolks of two hard-boiled eggs in addition for dinner; this seems to set well.

8th. Only one pill taken, which induced vomiting; forty ounces of urine in the past twenty-four hours; sp. gr. 1.0115. The filtered urine, on being heated, became opaque and deposited small white flakes. Rendered entirely opaque and of a pinkish-white colour on the addition of nitric acid. One thousand grains of this urine yielded thirty-three grains of solid matter.

Tongue coated in patches; skin dry, but of normal temperature; feels languid; aspect sad. No pain in the region of the kidneys, nor in any part of the body. *Inf. prunus virg. 3ij ter die. P. M. Enema.*

9th. Urine neutral; sp. gr. 1.012. Bowels not open. *R.*—Magnes. calc. 3iss; sodæ bicarb. 3j; aq. menth. 3ij. *M. P. M. Medicine rejected; enema purgans.*

11th. Bowels slightly moved last evening; natural evacuation this morning; feels better. Passed thirty-nine ounces of urine; sp. gr. 1.011; reddens litmus very slightly. Indian mush for dinner. *P. M. Nitric acid pediluvium.*

12th. *P. M. R.*—Fel. bovin gr. v; acet. morph. gr. $\frac{1}{2}$; mas. hydrarg. gr. $\frac{1}{4}$. *M. ft. pil. h. s. s.*

13th. Urine sp. gr. 1.012. Palpitation of heart; eructation, retching, vomits green glairy mucus. Midday: pulv. jalap. comp. 3j. *R.*—Pulv. digitalis assafoetid. āā 3j. *M. ft. mas. et in pil. dividend xx. cap. 1 q. q. 4ta hora.*

14th. Bowels moved; feels more comfortable; no pain; has soreness of the loins, occasionally, when turning in bed; pulse 86, corded, but not hard; tongue coated, pale. *R.*—Pulv. jalap. comp. 3j; ol. carui gtt. j; aq. font. 3ij. *M. ft. haust. Continue pills. P. M. Some oppression and pain in cardiac region. Dry cups, which removed the uneasiness.*

15th. Urine unchanged, sp. gr. 1.0145. *R.*—Pulv. ipecac. et opii, nitrat. potass. āā gr. x; protochlor. hydrarg. gr. ss. *M. Div. in chart. iv; cap. j. q. q. 3ta hora. P. M. Skin dry, temperature normal. Hot vapour bath at 8 o'clock P. M. At the expiration of fifteen minutes the patient became oppressed and faint, but no perspiration was induced. At 9 o'clock he took ol. ricini 3j in 3iv of porter. About night he vomited, and the bowels were freely purged.*

16th. Bled freely from the nose this morning; hemorrhage promptly arrested by an application of powdered leaves of matico.

P. M. Hot pediluvium. R.—Elixir opii (McMunn) gtt. xxx; aq. camph., aq. font., āā 3j. *M. ft. haust. h. s. s.*

10 o'clock *P. M. Medicine rejected; retching; soda powder pro re nata.*

17th. Urine sp. gr. 1.015. Spts. mindereri 3ss, q. q. 2da hora; diet of panada.

P. M. Thinks he is better; stomach tranquil; pulse 85, hard; eyelids puffy; restless; no pain. Dry cups to abdomen; enema purgans. *R.*—Tinct. digitalis $\bar{3}j$; spts. minder. $\bar{3}ijss$. *M.* cap. $\bar{3}ss$ q. q. 2nda hora.

18th. Bowels not moved since the 15th. Rheumatic pain of right wrist and elbow, and slight pain over right eye. Has been long subject to paroxysms of the kind. Pulse contracted, hard, but compressible; skin softer than heretofore; tongue whitish, contracted; deficient in moisture. *R.*—Ext. sennæ (fluid) $\bar{3}j$. *P. M.* *R.*—Fol. sennæ $\bar{3}j$; aq. font. *Oj.* *M.* displace; cap. $\bar{3}iv$.

19th. Bowels moved; passed the night much more comfortably than usual. *R.*—Lactucarii gr. v; protochlor. hydd. gr. ij ; ext. gentian gr. ijj . *M.* ft. pil. ii s.s. *P. M.* Sponged surface with warm water several times. Has eaten only a few spoonfuls of arrowroot during the day.

20th. Feels better; pulse has rather more force than is natural. *R.*—Ol. succini, tinct. capsici $\bar{a}\bar{a}$ $\bar{3}ij$. *M.* ft. liniment. Rub abdomen and extremities. 1 o'clock *P. M.* *R.*—Ol. ricini $\bar{3}ij$; spts. terebinth. $\bar{3}j$; aq. tepid $\bar{3}ijj$. *M.* ft. enema stat. adhib. 5 o'clock *P. M.* Bowels not moved; repeat enema. *R.*—Protochlor. hydrarg. gr. j. q. q. hora. 8 o'clock *P. M.* Skin rather dry; temperature normal; soft about forehead and wrists; tongue without moisture; jactitation; no pain; respiration normal; feels weak; pulse 88, hard but compressible; a strong creaking or friction sound on second sound of heart, which did not exist two days since. Sat up in bed and bled from the arm $\bar{3}xxx$. Immediately after venesection the creaking sound disappeared; pulse became softer, and there was perspiration about the head and neck. Hot pediluvium with mustard. Urine strongly albuminous, by nitric acid and by heat. 11½ o'clock *P. M.* Pulse soft, 110; skin of trunk and extremities perspirable; free perspiration about head and neck; less jactitation; frequently micturates; slight creaking sound of heart; bowels not yet moved. Repeat enema; continue pills.

Oct. 21. 2¼ o'clock *A. M.* Found patient breathing rapidly and with great difficulty; eyes rolled upwards; lids half closed; pulse 160 to 170; impulse of heart very strong; head and neck perspiring. The nurse stated that he was talking very pleasantly, when he was suddenly seized, a few moments before the surgeon was called, with tremor of the limbs and became insensible. After the lapse of a few minutes he partially recovered, and uttered unmeaning sentences, coupling parts of different words together.

Sinapisms were applied to the calves; dry cups to chest and abdomen, which was resonant. A stomach tube was passed up the rectum and about a quart of salt and water injected. At midnight the calomel pills were suspended, and the following substituted. *R.*—Protochlor. hydrarg. gr. ijj ; pulv. scillæ gr. iv ; pulv. digitalis gr. $vijj$; ol. valerian gtt. ijj . *M.* ft. pil. no. xii. cap. j. q. q. hora. About four o'clock *A. M.* swallowed part of a drachm of pulv. jalap. comp. A few minutes after which he vomited and the bowels were slightly moved. Power over words still defective. 4¼ o'clock *A. M.* Rubbed chest with tinct. aconit. rad. (Flemming's) and a few minutes afterwards he fell into a comparatively tranquil sleep. 11½ o'clock *P. M.* Has taken the pills regularly, and has passed a tranquil day. At 9 *P. M.* the creaking sound had increased and the pulse was somewhat hard; six ounces of blood were drawn by cups from cardiac region and side of chest. The pulse became soft, 100.

22d. Passed a tranquil night; pulse 100, soft; skin moist; tongue rather

dry; creaking sound of heart persists; says he "does not feel at all." Emp. lyttæ 4×6 to chest; rennet whey. 1 o'clock *P. M.* At ten o'clock took ten drops of tinct. aconit. rad., when the pulse was 100; it is now 52, soft, quick; suspend digitalis. 11½ o'clock *P. M.* At two o'clock the pulse was very irregular; took 3j of brandy in rennet whey, which was repeated at five, and at seven o'clock. Bowels moved at eight, at nine, and at half past ten; evacuations consisted of brown, offensive mucus. Mind clear; able to sit up in bed: made a will. Dressed blister with ung. hydrarg. No abnormal sound of heart; respiration 22 to 24; pulse 56 to 60.

Oct. 23d. 9 o'clock A. M. Had three small evacuations from bowels since midnight; pulse soft, 108; skin soft, of normal temperature; tongue a little dry; sleeps with mouth open. *R.*—Pulv. digitalis gr. iv; ol valerian gtt. iij; ext. krameria gr. vj. *M. ft. pil. no. vi cap. j, q. q. 4ta hora;* rennet whey. 10 o'clock *P. M.* Frequent, small, fetid stools during the day. Pulse soft, regular, 92; no abnormal sound of heart detected either anteriorly or posteriorly. Lies quiet; mind wanders slightly; bladder much less irritable. On the whole, his condition seems to warrant a less unfavourable prognosis. 11½ o'clock *P. M.* Anodyne enema. *Midnight.* Wandering; jactitation; subsultus; sardonic look; frequent small stools with flatus; pulse soft. *R.*—Spts. æther sulph. comp. 3ss; sacc. alb. q. s; aq. font. 3j. *M. ft. haust.* 2 o'clock *A. M.* Has less subsultus, and is rather more tranquil and rational; suspend digitalis, &c.

24th. 9 o'clock *A. M.* Pulse soft, regular, 100; tongue dry and red on the point; emp. lyttæ 4×4 over umbilicus. 4 o'clock *P. M.* Has taken half dozen tablespoonfuls of clam soup; stomach tranquil; surface of tongue covered with pilous fur, point pinkish, dry, pasty; slight flatulence. No tenderness of belly on pressure. 8 o'clock *P. M.* Less subsultus; more rational; skin perspirable; pulse 90. Blister has vesicated slightly.

25th. 9½ o'clock *A. M.* Between 9 and 12 o'clock last night was very restless. At midnight took pulv. opii et ipecac. gr. viij; protochlor. hydrarg. gr. j; ext. gent. gr. v. *M. ft. pil. iv.*

Wandering and jactitation increased; pulse soft and regular. 1 o'clock *P. M.* Dry cups to nape; hot applications to feet. 2 *P. M.* *R.*—Moschus ʒj; mucil. acacia 3j. *M. ft. enema.* 5 o'clock *P. M.* More tranquil since the exhibition of the enema than at any period during the past twenty-four hours. Repeat enema. 7 *P. M.* Enema passed; very despondent. 11½ *P. M.* Refuses treatment.

26th. Stimulating frictions to chest and extremities. *P. M.* Ate half of a raw oyster; condition without change; picks the nose; scratches his skin. Refuses food and drink of every description.

27th. Tongue moist, soft; pulse 108; skin normal. Watery and excessively offensive evacuation from bowels this morning. Rested tranquilly last night and this morning. 5 o'clock *P. M.* Restless; petulant; delirium and subsultus increased. 8 o'clock *P. M.* Tongue dry; sordes on teeth; pulse 98; slight friction sound in cardiac region. At 9 *P. M.* took five grains of musk in an ounce of syrup of tolu. At 11½, he got up unassisted and sat half an hour in a stuffed chair.

28th. Frequent, dark, very offensive stools. Has taken a few teaspoonfuls of calf-foot jelly during the day. Obscure friction sound of heart, ol. tigllii rubbed on chest. Very petulant.

29th. Aspect more natural; skin normal; pulse 100; sponged surface with warm water two or three times; subsultus increased towards evening.

Midnight. Pulse 98, small, soft; skin comfortable; tongue less dry. Stools less frequent.

30th. 4½ o'clock A. M. Bled at least twelve ounces from the nose. Moistened matico leaves applied to the right nostril (the source of the bleeding) instantly arrested the hemorrhage. Neither the force or frequency of the pulse was affected by the loss of blood, but the respirations were reduced to fourteen a minute. He gradually sank until a few minutes before eleven o'clock P. M., when he tranquilly expired.

Autopsy.—Fourteen hours after death. Thermometer 70° F. Body emaciated; rigid; muscles of a bright colour; very little subcutaneous fat. *Thorax.* Lungs healthy; pericardium was opaque and contained thirteen ounces of bloody serum, which on standing deposited a coat of red colouring matter on the bottom of the basin. The heart was unusually large, remarkably hard, and offered almost as much resistance to the knife as cartilage. The anterior face of the right ventricle was rough from deposition of lymph: the colour of the substance of the heart was somewhat darker than usual. The right auricle was large, capable of containing at least six fluidounces, and its parietes measured two-tenths of an inch in thickness. The right ventricle was somewhat enlarged, and its parietes were three-and-a-half tenths of an inch thick. The diameter of the right ostium venosum was eleven-tenths of an inch; the tricuspid and pulmonary valves were healthy. The parietes of the left auricle were one-tenth of an inch thick, and of the left ventricle one inch and a tenth. The anterior of the mitral valves was somewhat thickened, and the diameter of the left auriculo-ventricular opening was an inch and three-tenths. The septum ventriculorum was an inch thick. The aortic valves were healthy; the lining membrane of the aorta was elevated at points by indurated, yellow deposits; the diameter of the aorta at the valves one inch, and of the pulmonary artery nine-tenths of an inch. After the pericardium was removed, and the organ macerated in water four hours and then dried by a towel, the heart weighed twenty-four ounces avoirdupois.

Abdomen.—The omentum was almost entirely opaque from injection of its vessels, and presented a dirty-yellow appearance. The stomach was unusually large, and its exterior darker than common; it contained five or six ounces of very dark green, offensive liquid; the mucous membrane was firm, but striated or rather marked by narrow bands of a brown or bistre colour, especially in the middle and at the cardiac end; towards the pylorus, its colour was grayish. The mucous lining of the duodenum was found granular to the touch and in appearance from enlargement and induration of the glandulæ agminatæ and solitariae, some of them being more than a line in diameter. Nothing unusual was remarked on examining the pylorus. The mesentery was of a dirty yellowish-white colour. The small intestines presented a general unhealthy appearance; the colour varying in places from gray to a dark bluish-white. The caput coli was bluish, and ulcers a quarter of an inch in diameter were found, an inch or two apart, along the course of the colon until the sigmoid flexure was reached, where the mucous membrane became a continuous ulcer, and the gut, together with rectum, was a blue-black. The peritoneal cavity was remarkably dry. The liver was considerably enlarged, rather pale in colour, and possessed less firmness than usual. It bled freely on being incised. The gall-bladder was distended with bile of the colour and consistence of West India molasses. There was nothing remarkable about the spleen, but the pancreas were perhaps softer than they are commonly met with. The kidneys were enveloped in a more than ordinary quantity of

cellular and adipose tissue; both were flabby, but their structure was not very readily broken down. After being freed from the cellular substance and fat around them, the left kidney was found to weigh four ounces and a half drachm, and the right one, three and three-quarter ounces, avoirdupois. The exterior surface, of both kidneys, had a considerable number of sacs, about the size of a buckshot, imbedded in it, containing a transparent liquid, besides several yellowish tubercles nearly as large as a pea. The contents of the latter, examined under a microscope, (magnifying 170), seemed to consist of very minute granules floating in perfectly transparent liquid. The removal of the sacs and tubercles left small pits of corresponding size in the surface. On the anterior face of the left kidney near its superior extremity, was an excrescence, about a half inch in diameter, resembling a black grape; its removal left a considerable depression in the kidney; its contents seemed to be the same as that of the other tubercles, none of which, however, projected beyond the surface. On incising the kidney in the usual manner, its structure seemed uniform, there being no line marking the difference between the cortical and tubular parts of the organ. At first the cut surface seemed to be studded with white spots, which proved to be, however, on closer examination, the cut extremities of divided vessels, which were enlarged. Strewed as it were, through the structure of the kidney, were observed on very close inspection very minute yellow tubercles, resembling those first observed. The fibrous appearance of the structure was observed at either extremity of the kidney, but was looked for in vain in the central portions. The pelves were yellowish-white, and unusually large.

Remarks.—The extent of hypertrophy of the heart, in the above and preceding cases,* may be proximately arrived at by comparing their respective weights with the normal weight of the healthy heart, which may be stated to range between eight or nine ounces for the adult. The dimensions of the normal heart may be obtained by reference to Dr. Pennock's edition of "*Hope on the Diseases of the Heart.*"

The state of hypertrophy is supposed to result from excessive nutrition, and under this view, we should expect to find the digestive organs generally sound. In the case just detailed, we have evidence of chronic disease of the stomach, liver, intestines and kidneys, probably commencing ten years ago, and continuing through the whole period, with various degrees of activity. The symptoms of cardiac disease were comparatively recent, and were certainly subsequent, if not consequent, to disease of the organs of digestion and assimilation. It is worthy of notice, that there was no tenderness or pain at any time in the abdomen, notwithstanding the extent of disease of the organs contained in it. The chief symptom of intestinal disease, after the patient came to the hospital, was constipation and irritable stomach; and except from the condition of its secretion, there was no very positive sign of disease of the kidney. The chief complaint made by the patient was of debility and irritable bladder.

It is believed that the history of the cases* above detailed is of more value to the student than if given in an abbreviated form.

* Page 73 of the number of this Journal for January, 1847.

CASE II.—*Pneumonia*.—Michael Gleason, ord. sea., ætat. 21, native of New York, was received December 30th, 1846, from the U. S. ship North Carolina, "affected with fever," for which he was admitted on the sick list the previous day. Salts and antimonials had been administered. The officer who brought the patient to the hospital stated that he was suspected of malingering to avoid punishment—that he had been punished about three weeks previously. P. M. Complains piteously and, seemingly, in an extravagant manner of pain over the eyes, and that he cannot keep in bed; that he has sore throat, and that the pain over the eyes is very much aggravated whenever he coughs. Skin hot and perspirable; pulse soft, 96; tongue covered with a white coat, through which red papillæ appear near its point; a deep inspiration excites neither pain nor cough. Chest resonant on percussion; respiration slightly bronchial. Bowels confined; skin foul. Fever diet; hot bath. R.—Hydrarg. protochlor. gr. vj; pulv. jalap gr. xv; pulv. opii et ipecac. gr. x. M. h. s. s. The patient states, he has had a cold and felt uncomfortable for six weeks past; that the present attack began on the 28th with listlessness, and sense of chilliness.

31st. Passed a restless night; got up several times and walked about the ward, disturbing other patients. Pain in lumbar region; headache; pulse soft, slightly intermittent, 60; action of heart normal; respiration hurried; very little heat of skin; face flushed; bowels open once. R.—Acetat. ammoniæ liq. ʒss. q. q. 2nd hora. Cold applications to forehead; dry cups to loins. P. M. Better. R.—Tinct. opii gtt. xxv; aq. font. ʒj. M. h. s. s.

January 1st, 1847. Passed a restless night; somnolent; ptosis of left eye; conjunctiva slightly injected; cornea looks greasy; the pupil of left eye is of normal size; that of the right dilated; both insensible to changes of light. Complains of headache; skin soft and perspiring; perspiration of an acid odour; tongue coated; bowels opened during the night; pulse soft, regular, 140; disposed to lie on the left side. Three leeches to each temple, to be followed by cold applications to the head; sinapisms to legs. R.—Hydrarg. protochlor. gr. viij sacc. alb. q. s. M. div. in chart. vj cap. j q. q. 2nd hora. 1 o'clock P. M. Emp. lyttæ to each calf; 2 h. 45 m. P. M. Bowels not moved; Seidlitz powder. 6 o'clock P. M. Sonorous breathing, but not stertor; blows out the cheeks; white froth about lips; face flushed: cannot be perfectly roused; head cooler; manifests some uneasiness when pressure is made over the hypogastric and iliac regions. Bowels not yet moved. R.—Chlorid. sodii ʒij; spts. terebinth. ʒss; aq. tepid oj. M. ft. enema. This was rejected immediately. R.—Tart. antim. gr. j; magnes. sulph. ʒj. aq. font ʒviij. M. cap. ʒij q. q. hora. Emp. lyttæ. 6×6 to abdomen. Shave the head; dry cups over the whole scalp, followed by cold applications. 9h. 30m. P. M. Introduced catheter, and drew off twenty-nine oz. of urine having a strong acid reaction.

January 2d. Expired a few minutes before nine o'clock A. M. A shipmate just admitted states, that about three weeks since, he was with deceased in a riot in a street in the city of New York, and saw him knocked down by a blow on the back of the head, inflicted by a "slung shot."

Autopsy seven hours after death; thermometer 60° F.—Body rigid; muscles red, firm and well developed; dependent parts of body ecchymosed. Pupil of right eye dilated; left, of normal size.

Head.—No mark of injury externally; the pericranium was carefully

removed, but no fracture discovered. The site of each cup applied, was distinctly marked on the bone by injection of its vessels. The skull-cap was removed with difficulty, from strong adhesion to the dura mater. Shreds of coagulated lymph in the longitudinal sinus; lateral ventricles contained from $\frac{3}{8}$ ss to $\frac{3}{4}$ vj of serum, which seemed to contain globules resembling pus or mucus when examined by a microscope. Substance of hemispheres softer than natural; the left injected, and a small clot rested on the third nerve of the left side. The arachnoid on the right side more injected than that of the left; at the base of the brain it was thickened. The cerebellum congested and softened; anterior face of the medulla oblongata rough from deposits of lymph.

Thorax.—On opening the thorax, the left lung collapsed partially; the right lung was closely united, by pleuritic adhesions, to the diaphragm and ribs throughout its whole extent. The superior lobe of the left, and the whole of the right lung, were injected with blood and frothy mucus, but still crepitant between the fingers. Heart normal in size and condition.

Abdomen.—The whole convex surface of the liver was united to the diaphragm, abdominal parietes and colon, by peritoneal adhesions; the omentum was also adherent. The liver was enlarged, pale, and a deposit of bone the size of a pea, was found on the superior surface of right lobe; the gall bladder was much distended. The stomach presented longitudinal patches of inflammation, following the direction of the greater curvature; the mucous coat softened and easily detached. The pyloric extremity of the duodenum considerably enlarged, and its mucous coat highly injected. Small intestines healthy; colon healthy and free of fecal matter. A large mass, weighing an ounce and a half, avoirdupois, consisting of three sacs stuffed with dry white granular matter, was enclosed in the mesentery, and surrounding the mesenteric artery. The kidneys were large; the left weighing $8\frac{1}{2}$ ounces, and the right $7\frac{3}{4}$ ounces. The lining membrane of the pelvis was marked by numerous bright red spots, from one to two lines in diameter. The bladder was distended with urine: its coats were healthy.

Remarks.—The above case is from notes by Assistant Surgeon Lewis J. Williams.

CASE. III.—*Disease of Brain and Testes*.—Wm. Forbes, ord. sea., received, July 10th, 1845, from the U. S. ship North Carolina, said to be affected with asthma, and to have tubercles of upper portion of right lung. Says he suffers a great deal from difficulty of breathing, particularly at night; cannot rest in a horizontal posture; looks pale and wearied. No pain in chest; has night sweats; constant febricula; still able to walk about. Has been unwell two months.

July 11th. On examination detected rude respiration without distinct vocal resonance at summit of right lung; dry mucous râle heard in both upper lobes; rude respiration under base of right scapula; oppressed cough; sore throat; soreness under clavicles. Half diet. Dry cups under both clavicles. R.—Tinct. lobelia, gtt. x ter die.

12th. Membrana tympani of right ear perforated; seemingly, as a consequence of internal suppuration; a puruloid discharge from external meatus of several weeks' continuance. Inject ear with tepid water. Repeat dry cups to chest.

13th. Poultice of hops and vinegar to throat, which is complained of as

being quite sore. Patient continues to suffer from dyspnœa on taking the slightest exercise, but has undergone no material change since admission.

17th. By daily use of injections into the ear, patient states his sore throat has been entirely cured; puruloid discharge from meatus externus rather less. Since last notice several doses of pulvis jalapæ comp. and of ol. tigii have been administered to relieve constipation. Patient's condition to-day not so favourable; fever increased. R.—Mist. neutral ʒss q. q. 2nd hora. Free use of acidulated gum water.

19th. Free from the unpleasant symptoms of the 17th.

21st. Pain in breast; slight fever; cephalalgia; skin dry. Dry cups to whole front of chest. P. M. Complains of want of rest. R.—Tinc. opii., spts. æther. nitros. āā gtt. xx; aq. font ʒij. M. ft. haust. h. s. s.

22d. Bowels bound. R.—Pulv. jalap. comp. ʒj.

24th. Considerable increase of dyspnœa; pulsé 116; quick but soft; great heat of skin; cough very troublesome; expectorates a good deal of glairy mucus; bowels confined; appears to be failing daily. Dry cups to whole front of chest. R.—Pulv. jalap. comp. ʒj. Hot pediluvium h. s.

25th. Much worse. Suffocative cough; sputa muco-purulent and in great abundance; excessive dyspnœa; constant anhelation; voice raucous and feeble; incessant headache; no fever at present: head has to be elevated when he lies down. Suspend lobelia. Apply cups under clavicles to draw ʒiv. R.—Syrup. scillæ comp. ʒss. q. q. 4ta hora.

26th. Rather easier; passed an uncomfortable night; some fever. Suspend syrup scillæ comp. R.—Hydrarg. protochlorid. gr. ij; pulv. scillæ, gr. viij; opii gr. j. M. ft. pil. no. viij, cap. 1 q. q. 4ta hora. Friction to chest with tinc. capsici, tinc. stramonii partes equales. Arrowroot.

27th. Severe pain in epigastrium; cough very harassing; voice very hoarse; constant fever; R.—Hydrarg. protochlor. gr. ij. Continue other treatment.

28th. Constipated. Enema purgans.

29th. Tongue coated; repeat calomel.

30th. Tendency to sink. R.—Ammoniæ, carb. gr. ijss, in mucilag. acaciæ, q. q. 3ta hora: Cut cups to nape. Head to be shaved.

31st. Tongue dry; skin hot and arid; unrelenting fever; pulse soft; delirium; cough frequent; chest seems stuffed up with muco-purulent secretion, and from engorgement, so as to be nearly impermeable to air; debility great; partial subsultus; jactitation; answers questions, though tardily. Suspend carb. ammoniæ. R.—Hydrarg. protochlor. gr. ss. q. q. hora. Dry cups to abdomen. P. M. No material change since the morning visit. Tongue very dry; bowels confined; R.—Emp. lyttæ, 6×6 to epigastrium: dress with ung. hydrarg. fort.

August 1st. Passed a very restless night; delirium continues; less prompt in answering questions; head cooler; face dusky and lips purplish: skin very dry but not so hot; jactitation; pupils rather sluggish but of natural size; voice reduced to a feeble whisper. Cold vinegar and water to head; hot applications to feet. P. M. Delirium more wild; tongue dry and cracked, and, like the lips and teeth, covered with sordes. R.—Hydrarg. protochlor. gr. v. Enema of spts. terebinth. and sodii chlorid. Omit liniment.

2d. Pulse very rapid; less cough; very little air reaches the lungs; debility rapidly increases; skin very hot; seems to be consumed by an internal fire; countenance pinched and dusky; suffers profound distress;

one stool. Persist. *P. M.* Much worse. Mouth and fauces covered with black tenacious mucus; deep rattling of viscid fluid in the lungs; delirium more wild; pulse harder; heat of skin increased; head very hot. Apply cups to nucha to draw ζ ij.

3d. Moribund. Free use of brandy, &c., p. r. n. Expired at $1\frac{3}{4}$ *P. M.*

Autopsy 21 hours after death; thermometer 82° F.—Emaciation moderate—muscles of a natural color—very little blood flowed on incising scalp.

Brain.—Venous system and meninges rather more gorged with blood than usual. Arachnoid membrane of a deep rose colour, and evidently inflamed where it envelops summit and sides of brain. Scattered tubercles of a minute size found in its superior portion. Pia mater greatly injected and softened. Substance of brain everywhere softened, but most so in that part of right hemisphere which rests on petrous portion of temporal bone, where it was almost diffuent. Periphery of brain, to depth of two lines, of a rosy hue. Lateral ventricles filled with serosity. Sheath of both optic nerves somewhat injected. Parietes of cavity of right tympanum bare and rough from caries.

Larynx, with exception of a slight ulceration of arytenoid cartilages, left being rather the worst, was healthy. Mucous lining of trachea and principal bronchial tubes, in a state of inflammation.

Lungs.—Adhesions existed between costal and pulmonary pleuræ; mostly near summit of each lung, but strongest on right side. Both lungs excessively engorged with blood. Left lung most engorged; and at upper part in a state of red hepatization. Tubercles scattered through it in moderate quantities. Right lung principally engorged in upper lobes, both of which were more or less hepatized. Lower lobe of this lung is, comparatively, in a good condition. No cavity in either lung.

Heart rather flabby. Liver paler than natural. Stomach and other abdominal viscera healthy.

Right testis absorbed, leaving nothing but the epididymis. Left tunica vaginalis presented a good sized hydrocele. Left testis adherent to lower part of the tunica vaginalis; epididymis of this side occupied by an abscess containing a drachm of pus.

Remarks.—The above case is from notes by Passed Assistant Surgeon Joseph Beale.

ART. IX.—*Case of Hydrops Pericardii suddenly formed, with Remarks.*

By S. JACKSON, M. D., of Philadelphia, formerly of Northumberland.

IN the summer of 1845, I was hurried to a Mrs. C., who was said to be in a dying state. Dr. Bryan, whom I found at the bedside, had been there a few minutes and had been judiciously employed in fanning the remaining embers. While, with forlorn hope, I was writing a prescription, she gently breathed her last. The sad catastrophe was hardly over when Dr. S. G. Morton, her accoucheur, arrived and gave us the following history of the case.

About six hours previous to this, she had been delivered of her first child, after a severe labour, which she bore with fortitude, and went through without any unpleasant symptoms. The placenta did not come away by the natural efforts: and, upon introducing the hand, after waiting several hours, there was found an hour-glass contraction, to overcome which he was obliged to use considerable exertion. After this she appeared very well, complained only of drowsiness and some little debility; but the pulse was regular and the Dr. left her with entire confidence, after prescribing food and rest.

Her mother stated that about an hour after the Dr. had retired, they became alarmed at her paleness and debility, upon which they sent for him, in haste, but he was not at home. The womb was firmly contracted and there had been no hemorrhage. Here then was an inextricable history which nothing but necrotomy could explain, and this was made by Prof. Goddard the following day.

The uterus was well contracted and perfectly normal, the abdomen and its viscera entirely sound, the cut muscles looked very pale, *the pericardium contained at least two quarts of water, almost limpid*, no inflammation in this organ, nothing abnormal in the whole chest except this water.

This woman had been, as every one supposed, perfectly well till she began to look pale and to complain of sinking, about an hour and a half or two hours after the delivery of the placenta. There was no water in the pleuræ or abdomen; none in the brain, as her mind was clear to the last; there was no anasarca, not even of the feet. The effusion could not have existed in any appreciable degree in the morning, for she had walked up a long staircase and had gone through a painful labour without any anhelation. She could not have been panting with a hydrops pericardii during her hard labour without its having been noticed by her careful accoucheur. Her labour lasted about eight hours; the placenta was taken away about three hours after her delivery of the child; and, within three more she was dead,—a tremendous catastrophe to which nothing could reconcile us poor anxious practitioners of the healing art except the fortunate discovery of the cause. But the cause of this cause is still a most important desideratum. Dr. Darwin might refer it to his retroverted lymphatics, but this hypothesis requires another, this a third, and so on without end, in the manner of those who have been in the practice of theorising on the causes of fever.

This case appears to be analogous in its sudden formation to those suddenly formed hydroceles of which an example was recorded in the preceding number of this Journal by Dr. H. H. Smith.

A similar case has also been related by myself in the number of this journal for January, 1840, and as the number is out of print, and may not be in the hands of all the present subscribers, I shall here quote the case as there related.

"CASE. In the winter of 1829, I was requested by Dr. Price of Sunbury, to consult with him in the case of Michael Hoffman, supposed to be labouring under strangulated hernia. The Doctor had tried the taxis freely, and we both tried it again, having prepared the system by the tobacco enemata. This having failed, we agreed to meet in the afternoon and to bring Dr. Rodrigue to assist at the operation, should it prove necessary.

"We met at the appointed hour and agreed that the operation should be immediately performed. Upon making the usual incision, about six inches long, I was soon surprised with the appearance of a sac, smooth and tense, as though filled with water alone. Upon placing it between my eyes and the setting sun, which shone brilliantly upon us, I saw that the whole contents of the sac were uniform and semi-transparent. I said, *tacete, tacete—hydrocele est*, and immediately plunged the scalpel into the tumour and discharged the water by a large incision. I manipulated and conducted the affair in such a manner, that neither the bystanders nor the patient suspected anything extraordinary. I drew the upper end of the wound together by two stitches and covered the whole with a poultice of bread and milk. He had an easy, rapid recovery, and the hydrocele was radically cured.

"The deception and erroneous diagnosis were not more extraordinary than the history of the case. The man had told Dr. Price precisely as he afterwards told us both, that the whole tumour had suddenly come on that morning upon his lifting a heavy log; and, further, that he had never known it before. Having heard its history from Dr. Price, I made no examination, taking it for hernia on the report of a skilful physician. The tumour was very large, and gave us the idea of a hernia containing much omentum."

The above patient was a man of good character and rational mind, and surely he had no motive to falsify. I have said, above, that "the whole tumour had suddenly come on that morning upon lifting a heavy log;" this was reported to me both by the patient and his physician: but I have to blame myself here for an important deficit—I do not remember making any inquiry, whether the tumefaction was absolutely sudden in the precise manner of a rupture, or whether it was gradual through the space of an hour or two. It could not have been long in forming, for the man had gone out to his day's labour in a short winter's morning; had brought on the disease; had sent two miles for Dr. Price; the Doctor had done all that he could venture to do by the attempted taxis; and, had sent for me more than two miles—all which was done long before midday. The patient's own opinion was that he was ruptured.

ART. X.—*Case of Tubercles in the pericardium, vena cava, columnæ carnez, pleura, lungs, liver, &c., with Meningitis.* By J. D. TRASK, M. D., Brooklyn, New York.

January 2d, 1847. Assisted my friend Dr. J. H. Henry of Bedford, in an examination of a negro boy, æt. 15 years.

History.—No scrofulous taint in his family; had never been stout, and his appetite had always been inordinate. Emaciation had been perceptible for several months, and he frequently suffered from palpitation of the heart. During six months previous to his death, often complained of pain in the head, was drowsy and unwilling to exert himself.

About a month before his death took to the house, complaining of pain in the foot and knee, cough and dyspnœa, which, till the close of life, prevented his assuming a recumbent posture. Expectoration of green, tenacious mucus; diarrhœa for two or three days before death; partially comatose during last twelve hours; at no time any disturbance from light or sound.

Autopsy.—Twelve hours after death. Tenacious green mucus depending from the nostrils; abdomen excessively distended with gas; dulness on percussion over the right side of the chest, the left preternaturally resonant.

Head.—Scalp of average vascularity. Dura mater adherent to arachnoid by numerous points and patches along the whole course of the longitudinal sinuses. The arachnoid at the surface of the hemispheres, opalescent and very firm. Pia mater very much injected, especially where it descended between the convolutions. The surface of the brain, near the course of the longitudinal sinus, presented several patches of a beautiful pink colour. The centrum ovale exhibited rather more than the usual number of vascular points, especially in the anterior portions. The remainder of the brain was natural. No tubercles in the meninges or substance.

Thorax.—Œdema of integuments. Pleura of both lungs adherent almost throughout, except the anterior portion of the right, in the cavity of which there was a pint of serum. The trachea, œsophagus, and base of the heart consolidated into one mass, by adhesions formed between bronchial glands that were immensely hypertrophied and filled with tuberculous matter. Both lungs loaded with tubercles, the superficial portions of each much congested. The large bronchial tubes as far as observed, all filled with green tenacious mucus, so as completely to destroy the function of the lungs.

The pericardium and the surface of the heart, after removal from the body, present extensive deposits of tubercles which increase in size and in number from the apex to the base. At the base the subserous cellular tissue is almost entirely occupied by them, especially that below the portion of pericardium which is reflected for some distance over the origin of the blood-vessels.

The anterior surface of the heart presents very considerable roughness from the effusion of lymph, as well as from tubercles, which occurring in isolated granules (probably from friction against the pericardium) exhibit at first sight somewhat the appearance of tubercles. These, however, may be scraped off with the scalpel. A portion of the diaphragm removed with the pericardium is also loaded with tuberculous matter infiltrated among the muscular fibres; similar deposits are also located in the muscular structure of the œsophagus. There is a tubercle two lines in diameter upon one of the columnæ carnæ, and another of about the same size in the descending cava, at its junction with the vena innominata of the left side.

Fibrous polypi, quite firm and large, are situated among the meshes of the chordæ tendinæ of the right ventricle, and others in the aorta at the seat of its valves, and at the mouth of the pulmonary veins extending some distance along the vessels. These polypi under the microscope presented no trace of vessels, so that their formation could not have preceded death

by any very considerable time, although from the obstruction to respiration for several days before this event, circumstances were favourable to their early production.

Abdomen.—Considerable serum flowed from peritoneal sac; stomach and intestines distended to their utmost capacity. Liver exhibited several tubercles, the size of a pea, beneath the serous covering and numerous small ones in its parenchyma.

ART. XI.—*On letting Blood from the Jugular in the Diseases of Children.* By CHAS. C. HILDRETH, M. D., Zanesville, Ohio.

BELIEVING that the letting of blood from the external jugular is too much neglected by most medical men, we have thought that a few observations upon the subject might not be without interest.

Our best authorities agree in advising the use of leeches in the acute inflammations of infancy. But leeches cannot always be had. In fact their use is almost exclusively confined to our cities and larger towns; and hence the great majority of our practitioners are obliged to let blood by other means. My object here is to show the great advantage of selecting the external jugular from which to draw blood in diseases of young children, instead of the veins of the arm or temporal artery.

I would make this operation the rule instead of the exception, in many of the acute affections of children *under two or three years of age*; and also in older subjects, in certain diseases of the brain and trachea. As the head in infancy is larger in proportion to the size of the body than in the adult, so also is the cerebral vascular system more developed, and hence we find the jugulars relatively larger and more prominent in the first years of life. But in what, let us inquire, consists the advantage of opening the jugular, in the diseases of children, over the more general operation of venesection in the arm? In the first place let me endeavour to prove, that this operation is practically more simple, safer, and also more efficacious in the arrest of certain acute diseases. It is more simple, inasmuch as the external jugular in a child, is at least double the size of the veins of the arm, and consequently much more easily found and opened. It is more simple, on account of the more rapid flow of blood from this vein; and also in dispensing with a part of the usual apparatus for bleeding in the arm.

How often is the practitioner vexed and annoyed, in his search after a vein in the arm of a fleshy child? And how often is he still more annoyed in obtaining from it the requisite amount of blood to control the inflammation? These difficulties are very seldom found in letting blood from the jugular. Again, it is the safer operation. True, the opening of any external vein is safe enough, provided we open the vein alone, and not the accompanying artery. But in this lies the danger; and many a child has

been lost from neglect of venesection at the proper moment, simply because the practitioner finds an artery so very near the vein, that from fear of wounding the former, he abandons the attempt at bleeding entirely. To such a case the operation upon the jugular is peculiarly applicable. Here, there is no artery nearer than the carotid, endangered; and this lies too deep to be ever touched by skilful hands.

But then again it has been objected, that in operations upon the jugular there is danger of sudden death from admission of air. This objection we conceive to be purely imaginary, if the operation be properly performed. It is true that in extirpation of tumours low down in the neck, where the jugulars have been *completely cut across** and from the presence of hardened tissue could not collapse, air has been drawn into their open orifices in expanding the chest, and death has followed almost instantly. Again, in operating upon the cicatrix of a burn in the neck, the danger from admission of air is very urgent, simply because the firm tissue through which the vein passes, will effectually prevent its open orifice from collapsing by atmospheric pressure. So far as I am aware, however, there is no case on record of death from admission of air resulting from *simple puncture* of the *external jugular in venesection*. Nor do I believe such a result possible in a healthy state of the parts, if the operation be properly performed. To render the measure perfectly safe, let the pressure be applied at the point where the vein passes the first rib; let the vein be opened midway between the clavicle and angle of the jaw, and let the compress be applied to the orifice before the pressure is taken off the vein below.

The safety of the operation may be inferred from the fact, that the jugular is almost invariably selected in letting blood from the lower animals; and although the operation is often done in the most unskilful manner, yet injurious consequences very seldom follow.

In simple inflammations, the danger of phlebitis need not be taken into the account, in this or other operations on veins; but in typhoid, or malignant disease, the jugular, from its size and position, had better be avoided. In such cases, however, general bleeding is seldom required.

Again, I have said that letting blood from the jugular proves more efficacious in the arrest of certain acute diseases of children, than loss of blood from the arm. Among these diseases we may mention, inflammation of the larynx and trachea; inflammation of the membranes and substance of the brain; and congestion of the cerebral organs, accompanying or preceding convulsions.

Here blood is taken so nearly from the seat of disease, that the operation appears to have the effect of topical and general depletion combined, and hence its prompt and very decided salutary influence.

We also much prefer letting blood from the jugular in the acute inflam-

[* In many of the fatal cases recorded from the entrance of air into the veins, these vessels were merely opened and not completely cut across. See *American Cyclopædia of Pract. Med. and Surg.*, vol. i. p. 263., et seq.—Editor.]

mations of the thoracic viscera in young children. One of the chief advantages of the operation is the great rapidity with which blood flows from a free orifice in this vein. A decided impression can thus be made upon the system in a very few moments, and *with much less loss of blood than would be required to produce the same effect* from a vein in the arm, or by the still slower process of leeching or cupping.

Letting blood from the jugular, although a very simple operation, is not (to me at least) very satisfactorily described in the books. There is too much apparatus, too great a parade of compresses and bandages, &c., considering the trifling character of the operation. The subsequent dressing of the orifice is also objectionable. It is essentially necessary in letting blood from the jugular of a refractory child, that *the head and chest should be fixed immovably*, otherwise the flow of blood will be interrupted or stopped entirely. The following method I have found to answer this indication effectually, and also to be very convenient in practice.

The nurse having exposed the right shoulder of the child, and secured the clothing from the flow of blood, seats herself upon a low chair, and in holding the child across her knees, carefully confines the arms. The surgeon, seated at her side, receives and secures the child's head between his knees. With the thumb of the left hand, he now compresses the jugular where it crosses the first rib; while the remaining part of the same hand is employed in fixing the chest of the child against the person of the nurse. The right hand of the operator being at liberty, he makes a free opening into the vein with whatever form of lancet he is accustomed to use. The blood is received in a cup, the edge of which applied a little below the orifice, likewise serves to compress the vein. From a robust child blood escapes with astonishing rapidity, particularly when the child cries or struggles. No effort should therefore be made to quiet the patient. His cries should rather be encouraged, as they expedite very much the operation. A sufficient quantity of blood is very soon lost, to produce the constitutional effect required. The colour of the lips and cheeks of the child will tell the surgeon when syncope approaches, much more certainly than will his finger upon the pulse. The quantity of blood desired having been lost, a compress is applied to the orifice, and the pressure taken off the vein below. After the child becomes quiet, the compress is removed, and the wound closed by a piece of court or adhesive plaster, which the physician should always carry with him for the purpose. This is much the best dressing. The bandage and compress usually advised is very objectionable. It not only obstructs the free return of blood from the head, but its presence irritates the patient, and if not well adjusted may promote the flow of blood or interfere with respiration. If, however, all pressure be removed from the vein below, blood will not escape if no dressing be applied, except the child cry or struggle. We therefore much prefer, if the *proper dressing* be not convenient, to leave the orifice uncovered, and direct the nurse to apply the compress for a moment, should blood escape

during the cries of the child. Here perhaps it may be asked at how early an age is general depletion justifiable in a child? To this we would reply that the age of the patient should not be taken into the account, but simply the violence and location of the inflammation. A few leeches are equivalent to general depletion in very young subjects; and, in inflammations of mucous membranes in general, and abdominal viscera in particular, are no doubt much to be preferred to the use of the lancet. But in open, clearly marked, acute inflammations of the brain and membranes, lungs and pleura and trachea, accompanied by high fever, we much prefer the bold and rapid abstraction of blood from the jugular, whatever may be the age of the child. And we are well convinced that less blood will be required to produce a given effect in these diseases, if taken from this vein, than if drawn by leeches, whether the child be a few weeks old, or a few months.

At this tender age we may also remark that the jugular is the only vein of *sufficient size* from which we can draw blood with certainty or safety, and for this reason, if for no other, should be selected.

But perhaps we have already said too much in regard to so simple an operation. Simple, however, as it is, we have found it one of Herculean power in the arrest of inflammation. And simple as it is, we fear that many a child has been sacrificed to a neglect of its performance. We have known reputable practitioners, who have grown gray in the practice, who have never touched the jugular with a lancet.

Perhaps the great majority of the physicians of this country, if foiled in getting blood from the arm of a child, will look no further for a vein, but at once abandon the attempt to bleed. But when loss of blood is urgently demanded I need not say what a disgraceful loss of life is the result of the omission.

Should what I have written in regard to the simplicity, safety, and peculiar advantages of this operation, be the means of inducing some of my professional brethren to practice it more frequently, the object of this paper will have been accomplished. A few cases in illustration and I have done.

CASE I.—Of cerebral congestion accompanied by convulsions.—A child of M. D., two years of age, took varicella in April 1845. The eruption was profuse and accompanied by an unusual amount of fever. No treatment, however, was had until April 20th, when the child was found in convulsions. On my arrival, I learned that the fit had continued for nearly an hour. From the intensity of the fever, the strong determination of blood to the head, state of the pulse, &c., I saw that free depletion was very urgently demanded to preserve the delicate structure of the brain from lesion. A warm bath being in readiness, the child was placed in it, and the right external jugular opened immediately. The child being robust and the orifice large, blood escaped very rapidly. It was suffered to flow into the bath without regard to quantity, until the lips and cheeks of the child became deadly pale, and perspiration started from the surface. The compress was then applied to the orifice; the pressure taken from the vein below; the child removed from the bath, and placed in a horizontal posi-

tion. The surface of the neck was then cleansed from blood, and a bit of court plaster applied to the wound in the vein.

When the child became faint from the loss of blood, the convulsive action ceased, but it still remained comatose. As reaction came on, the cold dash was applied to the head followed by cloths dipped in ice water.

The coma still continuing, the lower bowels were unloaded by stimulating injections, and large sinapisms applied to the abdomen and lower extremities.

When the mustard produced the desired effect, the child became sufficiently conscious to swallow.

Calomel and castor oil were then given, and in a few hours the bowels were effectually purged.

The child had no more convulsions, but was next day walking about the house, though languid and exhausted.

That free blood-letting was most imperatively demanded in this case I have not a doubt, yet in a subsequent examination of the veins of this child's arm, I found them so small and indistinct, and so deeply imbedded in adeps, that it would have been almost impossible to have obtained from them the requisite amount of blood.

In all cases of croup demanding it, we invariably select the jugular from which to take blood. This vessel is so near the seat of this disease that letting blood from it, appears to have all the advantages of local and general depletion combined. We have space for one case only in illustration.

CASE II.—Croup.—A child of Mr. B., six months old, took croup Oct. 5th, 1846. Residing some miles in the country, the mother took upon herself the management of the case for the first twenty-four hours. During this time the disease was making rapid progress; some emetic medicine had been given, but it had not induced vomiting. On my arrival, I found the child had high fever; hoarse harsh cough; almost entire loss of voice, and very great difficulty of respiration. As the case had been too long neglected, I deemed it necessary at once to make as strong an impression as possible upon the disease. An emetic of calomel, ipecac. and antimony was first given, and then the right external jugular opened freely. The pain of the operation, restraint, &c., caused the child to make efforts to cry; from loss of voice, however, but little sound was heard. These effects, as usual, induced a very rapid flow of blood from the vein. No attempt was therefore made to quiet the patient. When the lips and cheeks became pale, and syncope approached, the compress was applied, the bleeding arrested, and the mother directed to compose the patient. This was now readily done. The usual dressing was then applied to the orifice. In a very few moments the emetic operated freely, and I had the pleasure of hearing a loose tracheal rale attend the next effort to cough. The child continued languid and exhausted for several hours. The happy impression upon the disease which had been so promptly effected was maintained by an occasional emetic and other remedies, and from this time the child continued distinctly convalescent. As the after treatment contains nothing of interest, it is not necessary to detail it; suffice it to say, the child soon recovered its usual health.

CASE III.—Acute Hydrocephalus.—Feb. 11th, 1845, was summoned
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to see a child of Mr. G. R., four months old. The mother informs me that her child has had an eruption upon the scalp for some time past, but that it entirely disappeared about a week since, under the use of some local application.

Since the drying up of the eruption, the child has been very restless, has had general fever, thirst, disturbed sleep, much rolling of the head upon the pillow, and frequent paroxysms of screaming. Immediately before I was sent for, the patient had a slight convulsion. On examining the head, I found the signs of dropsical effusion distinctly marked; the fontanels enlarged; sutures partially separate; the carotids throbbing violently; the whole head very hot, and evidently increased in size. Fearing a return of the convulsions, if the brain was not promptly relieved, I made a free orifice into the right external jugular immediately. As the child was crying at the moment, blood escaped as rapidly as from the arm of an adult. It was suffered to flow without regard to quantity, until the lips and cheeks of the child became perfectly blanched. A compress was then applied, the pressure taken off the vein below, and the usual dressing afterwards employed. Five or six ounces of blood were lost, and the child continued faint for some time after the bleeding. Scarce any reaction followed, and from this time forth the child was distinctly convalescent. Not a symptom of any violence occurred during the subsequent treatment. Other remedies were of course not neglected. The head was kept cool; a blister applied to the back of the neck; calomel and other purgatives were given at intervals, and as soon as possible an eruption of tartar emetic brought out on the scalp. Especial care was taken to maintain this eruption for several weeks after apparent recovery, in order to guard against a relapse.

That copious blood-letting was most imperatively demanded in this case, I think no practical man will deny. Yet if I had attempted to obtain the same amount of blood from the arm, or temporal artery of a child of four months, I should have been almost certainly disappointed. Leeches at that time were not to be had, nor could their application have produced so prompt an impression upon the disease.

ZANESVILLE, *January 1st, 1847.*

REVIEW.

ART. XII.—*Lectures on Subjects connected with Clinical Medicine; comprising Diseases of the Heart.* By P. M. LATHAM, M.D. Philadelphia: Barrington & Haswell: pp. 365.

MANY of our readers will doubtless remember with satisfaction the first work of Dr. Latham, republished, just ten years ago, in this city. It consisted of lectures upon the method of studying disease, by physical means especially, which were delivered at St. Bartholomew's Hospital. The author's health requiring him to abandon his office shortly afterwards, he did not, until the last year, continue the publication of his lectures. Those now before us are either literally, or in substance, what he delivered concerning diseases of the heart. They constitute perhaps the first successful attempt to treat of several distinct diseases in their natural relations to one another as shown by clinical observation, in contrast with the usual plan of discussing each malady as a self-originating, and independent condition, and therefore requiring to have its symptoms carefully disentangled from those of concomitant disorders, during life, and those of coincident lesions discovered after death. In former times physicians were too apt to include, under the idea of a disease, whatever phenomena arose during its progress; modern writers, on the other hand, taking as their starting point of classification the more tangible and constant lesions observed in the dead body, narrowed down the notion of disease to those symptoms which were immediately connected with such lesion, leaving too much out of view what were attributable to sympathetic disturbance, or some coincident change of structure. An imperfect knowledge of the source of symptoms led the ancients into faulty generalization; a too exclusive and minute scrutiny of particulars has prevented the moderns from obtaining that comprehensive view of disease which includes all its relations present, past, and future, which not only helps to distinguish one malady from another, but which, by looking back to the origin and forwards to the consequences of each, shows in what direction must be sought the means of preventing its development, and its mischievous effects. Such a view Dr. Latham has taken of diseases of the heart. He points out their principal source in rheumatism, and their connection with it, and how it must be managed to keep them undeveloped, or in abeyance; he describes the acute forms of these diseases, and how they must be managed in order to prevent those permanent structural lesions which it is their tendency to engender; he relates the history of these lesions, and explains the mode of their formation, and their influence upon the general system, tracing out with singular skill the succession of the final and mortal malady, not so directly from the heart-lesions, as from those of other organs and systems. A catenation so complete as that established by Dr. Latham has been attempted by no other writer, although the frequent dependence of heart disease on articular rheumatism has generally been acknowledged, since Bouillaud first pointed out the method of detecting inflammation of the endocardium. Our readers will doubtless be pleased to accompany us while we examine, link by link, this interesting and important chain.

The first three lectures are devoted to the natural sounds, impulses, and resonances of the heart, in the description of which the main peculiarity is the simple division of the murmurs into endocardial and exocardial, with very little notice of the several varieties of each. According to our author the endocardial sound has the same significance, whether it be a mere blowing or bellows murmur, or a rude filing or sawing sound, and hence in all his subsequent descriptions of heart-disease the endocardial murmur is spoken of as the sure and pathognomonic sign of endocarditis, or of some of its results. Allusion is indeed made, in the introductory discussion, to certain endocardial murmurs which accompany anemia, some cases of hysteria, of mental emotion, &c., but not a word is said to show how these sounds differ from such as are the result of inflammatory or organic disease within the heart. When such an identity of value is assumed for the several varieties of endocardial murmur, it is no longer surprising that Dr. Latham should find endocarditis to be an exceedingly common affection, and should entertain none of those doubts respecting its diagnosis which have embarrassed other, and equally accurate, observers. He very justly, when speaking of the rationale of the natural sounds of the heart, remarks that "a great deal of what is termed physiology has turned out to be a mistake; and so far as it has got mixed up with our notions of disease, it has hindered the progress of practical medicine;" and yet, we feel assured, he has fallen into this very error, when he takes for granted that the endocardial murmur recognizes but one single cause in rheumatism, that, namely, of obstruction to the course of the blood from the products of inflammation of the lining membrane of the heart, leaving out of sight entirely the inspissation of the blood, and the separation of its fibrine by the mechanical action of the cardiac valves. Equally, too, does he contribute to "hinder the progress of practical medicine" by adopting the usual phrases systolic murmur and first sound as synonymous; since it has been proved that although the first natural sound of the heart is partly due to the ventricular systole, it is equally due to the ventricular diastole, the motion of the heart and of its contents during both actions being necessary to produce it. When writers inform us that a murmur is heard during the whole, or a portion only of either sound of the heart, they state a fact which the observation of others may affirm or disprove, they prejudge nothing concerning the mechanism of the murmur; but when they assert that it is heard during the systole, or during the diastole of the heart, they mix up with their notions of disease, a part of that physiology which, if it has not "turned out to be a mistake," is still debateable and debated ground. We notice these points at the outset, because, as it appears to us, a fair estimate of them will lead to a qualification of some of our author's statements and conclusions.

With this allowance, Dr. Latham has indicated very accurately the value of auscultation in diseases of the heart. For it is certain, as he remarks, "that auscultatory signs, above all others, and oftentimes before all others, and oftentimes in the place of all others, may be safely trusted to declare the beginning and the augment, the decline and the cessation of acute inflammation" in the heart, and "may be confidently appealed to as guides, by which to choose the remedy, and apportion its quantity and regulate its force, and continue or discontinue its application." Or, as he forcibly expresses it in another place, "auscultation is the anticipation of morbid anatomy. The one tells us during life, what the other waits to tell us after death." And thus morbid anatomy contemplating *disease in progress*, and scrutinizing and explaining its organic processes, is of infinitely

more value than when it reveals the late or latest results of disease which are fixed and irremediable. But it is not every one, nor any one without labour and patience, who can interpret auscultatory signs correctly. "The ear must be a well-educated and well-practised ear, or it is not a trustworthy witness. The knowledge of the senses is the best of knowledge; but delusions of the senses are the worst of delusions. Men are as often deceived by their ears as by their eyes; and they may *hear* ghosts as well as see them." The wisdom of these thoughts is not the less that their author may be suspected of having, now and then, heard the "ghost" of an endocarditis.

The exocardial murmur, or friction sound characteristic of pericarditis, was the first auscultatory sign known of acute heart-disease, and, as early as 1826, Dr. Latham observed in rheumatic cases, along with it, or alone, another sound, or bellows murmur, which he confounded with the former, supposing both to arise from pericardial inflammation. At length he began to suspect that the blowing sound arose within the heart. "But," he informs us, "for years the practice of this great hospital did not afford me a single opportunity of resolving my doubt or of confirming my conjecture. For of that disease of the heart, which coming on during acute rheumatism is characterized by the bellows murmur, no patient of mine ever died, and I could learn nothing about it from dissection. But what my own experience would not furnish, M. Bouillaud's has supplied. Many have died during the active progress of this disease under his care, and dissection has found it to be inflammation of the endocardium." Now, we have no desire to become the champion of M. Bouillaud's success, but there is a mis-statement in the passage just quoted, which, in Dr. Latham's case, we are willing to ascribe to forgetfulness, but which few other men could have made without subjecting themselves to a charge of disingenuousness. The cases of M. Bouillaud, published in his *Traité Clinique, &c.*, in 1835, and which alone our author can allude to, are distributed into several series. The first of these contains thirteen fatal cases of acute endocarditis, but *not a single one of them* is an example of that disease complicating simple articular rheumatism. In six there was pneumonia, in four phlebitis, and in the three others, respectively, gangrene, phthisis, and old organic lesions of the heart. And on the other hand, the six cases reported by the physician of La Charité as of endocarditis cured, all occurred in the course of articular rheumatism, and presented as signs of endocardial disease, not only the bellows murmur, but also palpitations of the heart. In M. Bouillaud's treatise we can find no example of a case of acute articular rheumatism terminating fatally under the complication of simple acute endocarditis alone. In whatever else, therefore, his success may be inferior, it appears to be quite equal to that of which Dr. Latham speaks with so much complacency.

It has already been stated that Dr. Latham places great reliance on the endocardial murmur as a sign of endocarditis. These are his words. "There may be neither pain nor palpitation, yet endocarditis cannot be inferred *not* to exist, if the endocardial murmur be present." And again, this murmur "sometimes *does* stand alone, and to it alone you must needs trust; and you may trust implicitly." According to our author the murmur in question "results principally from unusual vibrations communicated to the particles of the blood by obstacles, which it encounters in its passage through the heart." But Bouillaud admits that in the immense majority of cases the products of endocardial inflammation cannot be de-

tected in the dead body. Where then is the obstacle which is to throw the column of blood into vibrations? Again, fibrinous concretions form in the heart, which no man of sober judgment considers to be the result of inflammation of its lining membrane; these, too, may give rise to bellows murmurs. In pneumonia and in rheumatism, when no sign whatever shows disturbance of the heart, this murmur may be heard, and also in typhoid fever; and in healthy pregnancy it has been detected in one out of every four cases observed by M. Jacquemier. In all of these examples there is one common element, that of a positive or relative excess of fibrine in the blood; this is eminently the case in rheumatism. It appears to us, therefore, an unwarrantable liberty to interpret every bellows murmur, which is for the first time audible during articular rheumatism, as signifying endocarditis, particularly when such interpretation leads necessarily to such an active mercurial treatment, as that enjoined by Dr. Latham. With these cautionary remarks we resume our analysis.

Passing over so much of the sixth and seventh lectures, as relates chiefly to the diagnosis of the two acute diseases of the heart especially connected with rheumatism, we come to the author's estimate of their frequency. It appears that out of 136 cases of acute rheumatism, the heart was affected in 90. According to our author, there was pericarditis in seven, endocarditis in *sixty-three*, and endo-pericarditis in eleven. So that "as many as two-thirds of those who have acute rheumatism also suffer inflammation of the heart." Dr. Latham appears to regard this conclusion as peculiar to himself; but M. Bouillaud had already asserted that these inflammatory diseases so often complicate febrile articular rheumatism, that the cases in which one or the other of them does not exist must be regarded as exceptional. M. Grisolle, who analyzed about one hundred cases in reference to this question, also observed heart-symptoms in more than three-fourths of them; but very far from concluding that they were always signs of inflammation, he insists that they were often quite independent of this process. When we look at the fact that not a single one of Dr. Latham's alleged cases of simple rheumatic endocarditis proved fatal, it is impossible not to suspect that some of them were mis-named, and that the sign on which his diagnosis was founded does not deserve the confidence which he reposes in it.

But although the sixty-three patients supposed to be affected with endocarditis all escaped immediate death, they did not all perfectly recover; in no less than forty-six of them the endocardial murmur persisted while they remained under observation. The inference that in all of these "permanent injury was done to the endocardium," is one which we cannot accept, for it would make the proportion of organic diseases of the heart to those of acute rheumatism, as 1 : 3 in Dr. Latham's series; a proportion which the frequency of the latter disease, and the infrequency of the former render incredible. How far the heart recovered its normal condition in the seven cases of simple pericarditis is of course uncertain, since there are no physical signs which indicate the process of reparation in this disease, when once those of effusion have ceased. Of the eleven cases of endo-pericarditis, three died, and in six the endocardial murmur persisted. But touching these last six cases, as well as the corresponding ones of simple endocarditis, a question must arise. If in the other examples of the two affections the murmur vanished at a variable period after convalescence commenced, but still, within the two or three weeks during which the patients remained in the hospital, in how many more of the remaining instances

may not the murmur have disappeared during the first few weeks or months, after they had passed from under observation? Until this question is answered, there is no sufficient ground for the opinion that valvular and other structural diseases of the heart follow acute articular rheumatism with anything like the frequency alleged by Dr. Latham.

The next subject is the connection of inflammatory affections of the respiratory organs with acute rheumatism. Of these there were 24 amongst the 136 cases of the articular disease, comprising 18 of pneumonia, 4 of bronchitis, and 2 of pleurisy. Now, in the mutual relations of these elements, several very curious facts are discoverable. The proportion of cases of lung inflammation in those of rheumatism, where the heart was *unaffected*, is almost precisely the same as it is in the series of rheumatic cases complicated with endocarditis, viz: as 5 : 46 in the former, and as 7 : 63 in the latter. That is to say, the addition of (alleged) endocarditis to articular rheumatism does not increase the liability of the lungs to inflammation. But taking the cases of pulmonary inflammation occurring in pericarditis, and comparing them with those arising in endo-pericarditis, it results that, in the latter the proportion is between one-sixth and one-seventh greater than in the former; so that endocarditis appears to increase the influence of pericarditis in producing disease of the lung, only by that amount. These considerations seem to confirm the opinion already advanced, that the endocardial murmur is not a sufficient sign of inflammation of the endocardium, or how should it happen to add nothing to the probability of lung inflammation in simple rheumatism, and but very little to rheumatism complicated with pericarditis? It is only when this last named disorder arises that pulmonary inflammations are more numerous than in articular rheumatism without heart disease. Do the lungs, then, become affected by an extension of inflammation from the pericardium? Or does the same cause which produces the rheumatism, acting with greater energy in these complicated instances, excite at once the pericardial and the pulmonary disease? Dr. Latham's remarks and illustrations do not furnish satisfactory answers to these questions; but considering the nature of the ordinary cause of rheumatism, cold, and the covert progress of these so-called secondary inflammations, it would seem probable that they are usually due not to the rheumatism, so much as to its cause. But such is not Dr. Latham's notion.

Regarding pericarditis and endocarditis to be "incidents" of acute rheumatism, he very naturally looks upon the treatment of the last disease as having the first claim upon our attention, since upon this view "the right or wrong management of the rheumatism may have a share in determining whether its incidents shall or shall not take place at all." The author accordingly proceeds to show what strange things acute rheumatism has experienced at the hands of medical men, and assures us that he has seen it treated by bleeding, by opium, by calomel, by colchicum, by drastic purgatives, and, under the use of each, the patients get well. Of this apparently accidental result he speaks as follows, and we the rather quote his words because we believe them to embody a valuable truth, and that in the most forcible language.

"At first view it may shake one's faith in physic a little, and may a little excuse the pleasantry of some who choose to hint that nature is our best friend after all; for that do what we will, she brings things to a prosperous issue in spite of our blind interference. But without disparaging the part that nature plays, I here see no fair subject of ridicule, and no fair reason for distrust of methods of rational

treatment. The first maxim of all rational practice is, that nature is supreme; the next, that nature is obsequious. The end, whether bad or good, death or recovery, and every step and stage conducive to it, are the unquestionable work of nature. But nature in all her powers and operations, allows herself to be led, directed, and controlled. And to lead, direct, or control her for the purposes of good, this is the business of the physician. But how to do it best he has to exercise a choice of modes and means in every case, which, though never exempt from the possibility of error, becomes less fallible by the teaching of "experience."

This is sound doctrine, and as old as the oldest medical philosophy; in one form or another, it has always governed medical practice, but unfortunately men could never be brought to agree what helps nature, and what supplants her; and it may well admit of doubt whether or not the author of the passage just quoted does really adopt a treatment for cardiac inflammation calculated to control nature for purposes of good. At present, however, let us learn what he says of the management of acute rheumatism. The practice which proposes to compass its cure at whatever cost of blood may be needed to subdue the force of vascular action, he regards as a very uncertain and dangerous practice, and would confine depletion within moderate limits, and prescribe it only for the robust and young, employing it, even then, rather as preparatory and auxiliary to other remedies, than for its own exclusive remedial power. "It very often renders the disease more curable, but it seldom cures the disease itself."

Of the opium treatment, Dr. Latham uses very emphatic language. This medicine is not to be used in rheumatism in such doses as are suitable to quiet mere restlessness. "The nervous system may become wild with suffering, and then it is not to be soothed and coaxed into quietude, but to be subdued. . . . The dose of opium must be large and pretty often repeated. . . . In the severer cases, the measure and frequency of its dose must be enough to *subdue*, if it is to have a fair chance of tranquillizing." In this way, Dr. Latham avers, he has seen opium bring on convalescence from acute rheumatism in three weeks, on an average; while upon the old palliative plan of giving a draught of *liq. ammon. acetat.* thrice a day, and a moderate opiate at night, the disease was seldom brought to a close in less than six weeks. So that, on the whole he believes opium to be a safer and better remedy than venesection, if one only of the two remedies is to be used.

The purgative treatment recommended by Drs. Chambers and Hope, and which the latter declared would almost always set the patient on his feet in a week, is conducted as follows. Ten grains of calomel are given at night, and a draught of salts and senna on the following morning; and the same are repeated night and morning as long as they are well borne, and produce the effect desired. Of this plan Dr. Latham says, "it subdues the vascular system like a bleeding, and pacifies the nervous system like an opiate, and often in the course of a week the acute rheumatism is gone. In three days there is often a signal mitigation of all the symptoms, and in a week I have often seen patients who have been carried helpless into the hospital, and shrinking at the least jar, or touch, or movement of their limbs, rising from their beds and walking about the ward quite free from pain." Now this plan, we are informed, though called purgative, is not efficient merely because it produces purging, for the cathartics without the calomel fail, and the calomel without the cathartics, fails too, because it salivates, which is beside our purpose. Unfortunately, salivation sometimes takes place in spite of the black draught, and then mischief is done, or the combined remedies irritate the bowels unduly, and do more harm

than good; so that if you find the patient will not bear the medicine "this method of treatment is not for *him*, and the sooner you back out of it the better." But taking it for all in all, and estimating it as a single remedy in comparison with the others mentioned, our author gives it a decided preference, as being applicable to a greater number of cases than either of the others:—yet

"There is a plan of treating acute rheumatism which is juster and safer, and applicable to more cases, and more successful than any of them. And that plan is a compound of all three. This compound method, while it works with all the means which have been recommended, stops short of what is harsh and excessive in their use, and yet compasses with more certainty the successful result. . . . If one remedy is to do all, it must be heavily charged, and resolutely driven home to its purpose. . . . but each remedy may be charged with less force if one be made auxiliary to the other. . . . If you, with the patient before you, and your finger on his pulse—if you judge that there is more force of circulation than calomel and purgatives operating upon the bowels, aided by the soothing effects of opium on the nervous system will be able to abate, you may bleed. . . . With the calomel administered at night, according to its quantity, I have united more or less opium. Then on each succeeding day when a large purgation of the bowels has been duly obtained, I have still given the opium alone, or with saline draughts, in doses of one-half, or one-third of a grain every five or six hours; and thus about two grains of opium have usually been taken in the course of twenty-four hours. . . . But after the propriety of using these remedies is understood, the skill of using them remains to be learned. This is the skill which cures diseases and saves lives. And no man ever had it, who did not obtain it from his own self-teaching amidst the emergencies of actual practice."

We have quoted the above passages, which contain the gist of Dr. Latham's treatment of acute rheumatism, because they bear upon them the impress of that genius of common sense, which, if less brilliant, is not less rare than the genius of pure intellect, and we feel persuaded that there is no one, who after reading them here, or, still better, in the ungarbled original, will not exclaim, "that is precisely such a formula as I have, more or less perfectly, worked out from my own observations." But, however common in the main, it is not so in its particulars. The succession and proportion of the remedies, and the cautions respecting their employment, belong chiefly to our author. In addition to the foregoing remedies, he is accustomed to invoke the aid of colchicum, but only when the symptoms of the disease although much reduced, still linger, or where the pain and swelling do not subside in proportion to the abatement of the vascular action and fever. To obtain any benefit from colchicum during the acute stage of rheumatism, "it must purge smartly and even painfully," and therefore Dr. Latham proscribes it; "for to purge with colchicum, is to make it act as it does in its first degree of poisoning." But, after all, and granting to the treatment recommended above, a superiority over all others, cases of acute rheumatism are of frequent occurrence in which it will display no such excellence. And hereupon Dr. Latham makes a sound practical remark, of much wider application than to the present example. "Acute rheumatism," he says, "has its good and bad cases; its cases in which the right treatment is seen clearly and instituted confidently, pursued in full expectation of success, and success follows; and its cases in which the right treatment is dimly discerned from the first, and the treatment, which is adopted doubtfully, is pursued distrustfully, and ends in failure, or in a distant, tardy, or precarious restoration." These bad cases are not, however, easy of recognition. Many of them will be found amongst the cachectic, and many amongst those whose treatment has not

been commenced until the second or third week ; and some where the pain and fever do not exist in due proportion to one another, where the pain is of extreme severity, or where fever and profuse perspiration greatly exceed the degree of pain. It must be confessed that the large deductions here made from the success attributed, in the first instance, to the "compound treatment," have a tendency to abate something of our admiration for it, since they imply that it is chiefly effectual in the early stages of rheumatism, and that only when the disease occurs in persons of good constitution, conditions in which almost any form of treatment will be successful. While it is highly probable that under these circumstances so conducive to speedy recovery, the compound treatment may be the best, it does not appear to us that Dr. Latham has made out a much stronger case in its favour, than is established by other writers for their peculiar methods, by Dr. Corrigan, for instance, in behalf of the opiate treatment. And that some such suspicion presented itself vaguely before our author's mind may be inferred from some of his concluding observations.

"I wish," he exclaims, "that I had none of these unexpected issues to tell you of. . . But if I undertake to instruct you out of my little book of experience, I hold it but honesty to read it straight through. There is no such thing as turning practical medicine into a well-told tale."

Passing, now, from this introductory but very essential portion of the treatise, we find a discussion of the question how far appropriate treatment in rheumatism tends to prevent the development of heart disease, a most difficult problem to solve, and one felt to be difficult by Dr. Latham. For if it is not easy to prove that a given remedy removes or even palliates existing symptoms, how much less readily can the preventive power of a remedy be determined, or the superiority of one to another in so preventing symptoms which perhaps might never arise at all. The author comes to the conclusion that the best safeguard against the evils incident to acute rheumatism, is to treat the disease so as not to exhaust the patient unduly, a conclusion which he does not appear to derive so much from the results of treatment in rheumatic cases, as from the generally received axiom in regard to the dangers of a too vigorous treatment of acute diseases.

But with, or without, appropriate management, the heart may become involved, and then what is to be done? Pain, excessive impulse, irregular action, a blowing murmur, or a friction sound, all of these, or *any one of them*, coming on in the course of acute rheumatism, according to Dr. Latham makes inflammation of the heart so nearly certain, as to call for instant measures to subdue it. Admitting the inflammation to exist,—(we have already explained our dissent from the author's interpretation of the endocardial murmur)—its treatment cannot be safely merged in that of the general disease; for the latter does not tend to disorganization, but the former does tend to produce changes of structure involving the most perilous consequences. To meet this new danger mercury must be administered without delay, or if it has already been given for its purgative effects, these must be arrested, and its constitutional impression alone kept in view. This, of which salivation is the first and best sign, is to be promoted by every means, by venesection, if there has been a considerable increase of vascular action; by moderate depletion in robust patients, even if the fever should not greatly increase, for by this means it is believed that the specific action of the drug is hastened. But great care is to be taken lest too much blood be abstracted, for anemia, no less than plethora, is adverse to the speedy production of salivation. But cups and leeches may also be required,

either as auxiliary to venesection, or as substitutes for it when direct depletion cannot so well be borne, or in those covert and insidious cases in which the local disorder is steadily progressing, without exciting any general disturbance of the system. But there is a choice between cups and leeches; the former are more effectual where the pain or uneasiness at the precordium comes on suddenly and is very severe; the latter when the symptoms are less urgent. Dr. Latham very judiciously recommends that the cups should be applied between the base of the left scapula and the spine, to avoid the pain which in these cases a slight pressure over the heart will excite. Meanwhile opium is to be exhibited not only to abate the now augmented pain, and calm the nervous system, but to prevent the mercury from running off by the bowels.

In the thirteenth and fourteenth lectures, our author wanders into a thorny field of speculation, in search of the secret of the *modus operandi* of mercury, but like other adventurers upon the same ground returns without the object of his quest. He believes, however, that mercury contributes to the cure of inflammation in two ways. "In one it constrains the morbid energy of the blood-vessels, and counteracts the powers by which inflammation is carried on," and in the other, it removes the products of inflammation. Of the last, of course there can be no doubt; but how far the removal of an effect contributes to the *cure* of a cause, is not very evident. Of the first way it will be time enough to express an opinion when we have learned what is meant by the "morbid energy of the blood-vessels," and "the powers by which inflammation is carried on." But turning from speculation, our author appeals to facts to prove the purely antiphlogistic power of mercury, and refers to the alleged wonders it has wrought in the acute diseases of India. But these allegations are far from being proved, and it is notorious that both in the East Indies and in the southern sections of the United States the agent no longer possesses the confidence of practitioners, as of wont. Dr. Latham does not allude to one of the well ascertained effects of mercury, and which, it may safely be said, goes further towards explaining the influence of this medicine in controlling certain forms of inflammation, than all the others which have been proposed. This is its power of causing liquefaction of the blood, of diminishing the fibrine of the circulating fluid, and so preventing the formation of those fibrinous deposits which occasion the dangers of many inflammations, and in a particular manner of those which at present engage our attention. Universal experience testifies to the benefits of mercurial treatment in serous inflammations, and equally to its inefficacy in phlegmasiæ of the mucous membranes. Perhaps the reason of this difference is to be found in the fact, that in the former there is a tendency to fibrinous exudation, while in the latter this tendency is generally wanting. Where it is present, as in true croup, mercury asserts its appropriate power.

However this may be, the advantages of a mercurial treatment in endocarditis and pericarditis can only be settled by experience, and to this tribunal Dr. Latham appeals. Let us hear his statement of the case.

By reference to his clinical records, it appears that there were some cases in which antiphlogistic remedies, without mercury, were employed, and yet a perfect cure followed, but none in which mercury alone was given, and with like effect. In others, again, bleeding and mercury were employed conjointly, but no salivation took place; and here, also, a cure ensued; while in some others the same remedies were prescribed, salivation followed, "and every vestige of the disease was swept away at once."

In still another group, under the same treatment, the fever abated, "pain, palpitation, and dyspnœa immediately went away," but salivation was slow to occur, and until it made its appearance, the endocardial murmur remained, but immediately afterwards ceased. "Thus," pursues Dr. Latham, "when I take my own experience in detail, and examine the results of treatment, case by case, I cannot pretend to have found a certain proof that mercury is an indispensable remedy to the cure of endocarditis." The only unquestionable evidence of its utility is derived from the last series of cases mentioned, and this series, as our author honestly admits, proves its reparatory power, its power of removing the products of inflammation, and nothing more. Notwithstanding this apparently conclusive argument, Dr. L. declares, "taking my experience in the mass, I still fear to omit the employment of mercury in any case of endocarditis with which I have to do." By the mass of his experience, our author doubtless means his recollections of its events, and these he contrasts with unerring records of a certain number of cases. Now, unless he is prepared to show that these cases were, in important particulars, exceptional, that they differed widely from those of which his remembered impression is that mercury was the efficient cause of their cure, it is not easy to see on what ground we are asked to receive the fallible testimony of the memory, in preference to the unbiased evidence of the written record. Upon general principles the efficacy of mercury in removing the results of endocarditis is freely admitted, because its reparatory influence seems to be unquestionable. If the mechanism of the endocardial murmur be correctly understood, if it does really depend upon deposits impeding the passage of the blood, then it may readily be granted that mercury will cause it to cease, by removing them. And if the antiplastic power of this medicine be also accepted, no one can deny that it may suspend or arrest the formation of the fibrinous deposits. But we insist that without a clinical demonstration of its curative power, these theoretical explanations are inadmissible, as proofs of that power; and, it must be conceded that Dr. Latham, so far from furnishing such a demonstration, has rather invalidated than strengthened his general assertions, by the special clinical evidence which he has brought forward. Yet there is one point of general clinical testimony adduced by him which is of striking significance: viz. that since the time when auscultation disclosed the sure diagnosis of endocarditis, it has not in a single instance proved fatal under his care. Now, if simple endocarditis, arising during acute rheumatism, proves fatal in the hands of practitioners who do not use mercury, we cannot refuse to Dr. Latham's treatment the merit of his success. But, is this the case? Dr. Latham affirms it of M. Bouillaud, but we have already shown how unjustly. Grisolles declares that endocarditis generally results in cure; and Valleix regards it as immediately dangerous only when it complicates a severe febrile disease; (*une maladie fébrile grave.*) Neither of these physicians admits mercury into the treatment of the disease.

Dr. Latham recommends the use of mercury in pericarditis upon the same grounds as in endocardial inflammation; that is to say, his recorded experience offering no evidence favourable to the use of the drug, and his general impressions being decidedly in favour of its employment, he concludes that he would be sorry to omit it in any case of pericarditis under his care. Now, either the number of cases of both inflammations, recorded, was large enough, and the recollections of those unrecorded were distinct enough, to make the two series comparable, and therefore proper for resolving the question in hand, or else these series were not comparable. If the

former supposition be true, it does really seem that to dispute the evidence of the written cases is very much like denying one's own signature to a bond, because one has forgotten that he affixed it; and if the second hypothesis be correct, an attempt to make the comparison is, literally, to embarrass and perplex an already difficult discussion. It is in vain for Dr. Latham to expect his conclusions to be adopted by others, when not only are they controverted by the particular facts which he adduces, but are even confessed to be so by himself. Of eighteen cases of pericarditis, Dr. Latham lost three: of two of them he cites the remarkable fact that although they were healthy subjects and in the prime of life, and had mercury given them from first to last, aided by venesection, cupping, leeches, opium, and blisters, yet that no salivation occurred in either of them. From these cases, on the one hand, and, on the other, from certain others in which the cessation of the exocardial murmur coincided with early salivation, the author appears to infer that the mercurial influence not only tends to save life, but promotes reparation of the damage done to the pericardium. Yet with that frankness which stamps him at once as a truth-lover and a truth-teller, he admits that the exocardial murmur by no means ceases early in all the cases where salivation is promptly excited; and, in confirmation, states the results of six cases, in which the intervals between salivation and the cessation of the murmur, were respectively, one, three, four, nine, twenty, and twenty-four days. If we are not mistaken, the fair inference from Dr. L.'s statements is simply this, that the condition of the constitution favourable to early salivation is also favourable to early cure, and not that mercury, when pushed to salivation, induces that desirable result. But it is not pretended by our author that mercury will certainly prevent adhesion of the pericardium from taking place; from the nature of the case such an assertion could not be maintained, since the signs of adhesion and of complete restoration are regarded by him as identical. He therefore limits his view of the action of mercury upon the local disease, to the production of early adhesion by arresting the formation of false membrane as early as possible. Here, then, the antiphlogistic power which, a little while ago, was cautiously conceded to mercury, is assumed as real, and the reparatory power before regarded as certain, now lost sight of in a great measure. We are unable to reconcile these apparently contradictory opinions. Dr. Latham, however, believes that the most satisfactory proof of the efficacy of mercury is derived from its effects upon the general symptoms. Speaking of the instances in which the murmur remained longest, he says "the whole terror of the disease was compressed within the few days which preceded the salivation." No sooner did salivation appear than "the terror of the disease was gone." In all these cases salivation took place rapidly. In certain others, where it took place slowly, (in eight, eleven, and thirteen days,) antiphlogistic remedies and opium were used meanwhile, and "kept down vascular and nervous excitement, assuaged pain, and abated palpitation." Surely this was overcoming the terror of the disease. But the murmur did not cease until salivation came on, and therefore, argues Dr. Latham, evidence was wanting "of inflammation arrested and reparation begun." Here, again, we are able to see nothing but salivation coinciding with improvement in the local symptoms, and both depending upon the improved condition of the patients, the result either of the antiphlogistic treatment or an incident of the natural course of the disease. Throughout this discussion Dr. Latham takes no notice of that cause of cessation of the exocardial murmur which consists in a large effusion of serum, and by which friction of the heart against the

pericardium is prevented. It is true that on a previous occasion he asserts that almost always the to-and-fro sound persists notwithstanding the effusion of serum, but this is so contrary to the testimony of the most experienced auscultators that we are slow to admit its truth; and, not admitting it, we think the apparent cessation of the exocardial murmur, under the use of mercury, is sometimes attributable to the occurrence of a serous effusion into the pericardium.

The conclusion to which Dr. Latham arrives is altogether favourable to employing mercury in acute inflammatory affections of the heart, not merely as an adjuvant or as an agent capable of hastening the restoration of health, but as essential to preserve life in most instances. In order to illustrate this proposition forcibly he contrasts his own success with what he asserts to be the result of continental treatment thus:—

“In foreign practice no mercury is used from first to last, but all the power of common antiphlogistic remedies is brought to bear upon the disease, and thus its symptoms are mitigated or subdued. *And so the patients are kept alive for a week or ten days, and then die in the great majority of cases.*”

By reference to M. Bouillaud's work (1835) it appears that he, like Dr. Latham, had eighteen cases of acute pericarditis, of which six were fatal, or one-third, and not a “majority” of them. Now, of these six, one died of tetanus, another had pleuro-pneumonia, splenitis, and erysipelas, the third, pleuro-pneumonia, so that there remained three deaths out of fifteen cases of acute pericarditis, or *one-fifth* of the whole number, while the proportion of deaths in Dr. Latham's cases was three out of eighteen, or *one-sixth*. Here is one instance at least which gives an emphatic contradiction to our author's statement of the mortality of the non-mercurial practice in acute pericarditis. Upon what others he can rely for sustaining it we are at a loss to conceive, for assuredly it gains no support either from the general or special treatises of the continental writers. Let one citation suffice. The cautious and expert Chomel, in his *Lectures on Rheumatism*, (p. 251) says:—

“Rheumatic pleurisy and pericarditis, the two complications most frequently met with, are, in general, less severe and more readily cured than ordinary pericarditis and pleurisy.”

The sixteenth and seventeenth lectures are chiefly occupied in general remarks upon endocarditis and pericarditis as they occur independently of rheumatism, and the remark is made that of their clinical history apart from that disease, little is known. Such, certainly, is Dr. Latham's experience, but it differs somewhat from that of other observers. M. Valleix, for instance, analyzes twenty-eight cases of acute endocarditis, of which nine only occurred in the course of an attack of rheumatism. Still, our author believes that these affections may be incident to other, and especially to febrile diseases, and to these he thinks we must often look for those slight degrees of heart inflammation which excite no suspicion of their existence in their first stages, but ultimately are revealed by their effects, the structural changes of the heart. Such changes may often, indeed, be traced back to an attack of articular rheumatism, but often, also, no such origin can be assigned to them, and it therefore behooves us, in all acute diseases, to watch the condition of the heart, that the first indication of these disorders may not escape us, but be prevented, if possible, from proceeding in their obscure and mischievous course. It was morbid anatomy that revealed to us how defective was the doctrine of symptoms, by showing again and again that patients

might be watched never so closely, and yet when they came to die, "be found to have perished of acute destructive inflammation of some vital organ, which had never been suspected to exist while they were alive." The most common seats of this covert and mortal disease were found to be the pericardium and the pleura; it gave rise to few or no symptoms, and therefore escaped discovery. But now that auscultation and percussion have come to our aid, it is our own fault if such diseases elude our observation. These methods have taught us how to find what morbid anatomy assured us frequently to exist in rheumatism, and they have multiplied the instances of which morbid anatomy had happily furnished a comparatively small number. Is it not therefore probable that by a judicious combination of these two sorts of evidence we shall at length be able to determine what other pathological conditions besides rheumatism, give rise to cardiac disease? Dr. Latham relates a number of interesting cases of pericarditis, recorded by himself and other observers, which had no connection with rheumatism, but he can find no element of causation common to them all. They are not, therefore, to be neglected, for

"Be it remembered," he observes, and we would have every one ponder this sound doctrine so beautifully illustrated, "that all our knowledge was originally derived from cases. And cases must still be noted, and preserved, and studied, as records of what we know until we arrive at more general facts, or principles, than we have yet reached. . . . The subjects of our profession require to be treated summarily or in detail, according to the degree of light that is brought to bear upon them from a general pathological principle. If you enter a spacious room with a small taper, you must carry it about, and pick your way with it into corners and recesses, and round pillars and projections, and after all you will hardly know where you are, and will be lucky if you escape accidents. But if you enter the same with a bright burning lamp, you have only to place it on a pedestal, and then stand in the midst and look around; and then you will find all things great and small, near and remote, brought out equally to view, and will at once understand and admire the beauty and proportions of the whole apartment."

The reader has seen how small a mortality from acute rheumatic endocarditis and pericarditis occurred amongst Dr. Latham's patients; out of ninety cases there were only three deaths. But there was a heavy per contra to this large success. In seventeen patients only, could anything like an assurance of perfect recovery be felt by Dr. Latham. The remaining seventy were kept in the hospital for some time, how long is not declared, and then discharged; "believed to be safe but known not to be sound." There are remote perils threatening all such individuals, but there are others near at hand; and some of these the author ascribes to an anemic condition resulting from the disease, and showing itself in general dropsy; others, such as maniacal delirium, epileptic or tetanic convulsion, chorea, coma, &c., may come on during the active stage of the inflammation; and others, again, consisting of complete prostration of the nervous system and mental imbecility, may appear during convalescence. Now all of these mischiefs, Dr. Latham ascribes to endocarditis and pericarditis, affirming that they act by disturbing the functions of the brain and spinal marrow, and he cites the example as a proof of the physiological teachings of disease. Neither morbid anatomy, nor those experiments on living animals which he "never performed and never could bear to see," could reveal such truths as are here taught by disease in the living patient. Does it not admit of question whether our author's humanity is not in this more admirable than his argument? There is so strong a resemblance between the symptoms above enumerated, and those which belong to poisoning by mercury,

and so complete a silence in regard to such symptoms in the descriptions of continental authors, that the suspicion of their having resulted from this cause in Dr. Latham's and Dr. Watson's cases, cannot be regarded as altogether unfounded. It is a subject deserving of full investigation. We will furnish a hint towards carrying it on. Dropsy is mentioned as one of the incidents of "the extreme and protracted anemia" which some of these cases presented. Now dropsy is not a consequence of anemia in which the blood globules are deficient, but it is a result of that mercurial intoxication which dissolves the fibrine of the blood.

The *remote* perils of cardiac inflammation are two. "Either there may be a renewal of the same disease in the unrepaired structure, or in some other structure of the heart, or the unrepaired structures, remaining as they were left, may become the element of further detriment to the organ, which is different in kind." We cannot so well give Dr. Latham's estimate of the importance of the former of these, as by quoting his words.

"Remember, acute rheumatism is (if we may so speak pathologically) the great parent root of inflammations of the heart. It is also, undoubtedly, one of those diseases for which men are found to have a constitutional proneness. When it has been once suffered in early life, there is a fearful likelihood that it will be oftentimes suffered again. Moreover, the first attack is generally the type of every attack which is to follow. They may not all be equally severe, but they will all take the same course, and involve the same structures. If the first involve the heart, so, probably, will they all. Thus the thought of a healthy child first seized with acute rheumatism is full of sorrowful forebodings. Its heart is very likely to be inflamed and it may die; but whether it die or not its heart is very likely to be damaged for life. And, wherever it again has acute rheumatism, it is very likely again to have inflammation of the heart as its accompaniment."

The diagnosis of these secondary affections, where, in the absence of distinct rational symptoms, dependence must be placed upon local auscultatory signs, is of course difficult, because it is impossible to determine what part of the murmur belongs to the permanent and what to the new lesion. "A broken instrument is ever out of tune; whatever key you touch you can never bring out the right note corresponding to it." Consequently the reality of secondary inflammation, as a common occurrence, is rather inferred than demonstrated. We know that it does happen, because it sometimes proves fatal, but how often it happens we know not. In this confessed state of ignorance, it seems not quite admissible to assert, as Dr. Latham does, that if during an attack of rheumatism, pneumonia, or pleurisy, the heart, left unsound by previous inflammation, and already subject to palpitations and uneasiness, suffers a great increase of palpitation and of pain, then its inflammation should be assumed as a fact. Our author indeed invokes the general principle of pathology that parts left unsound have a greater readiness to catch disease afresh; "as a taper just blown out, will snatch the flame from the torch that scarcely touches it, and so rekindle itself at once." But is this principle established in regard to inflammations of the serous membranes? We doubt it very much.

The actual presence of secondary inflammation of the heart is a matter of conjecture; but Dr. Latham says, "of sober conjecture" and, therefore, very wisely prescribes great sobriety in its treatment. There is no longer room for venesection and mercury as principal remedies; neither is to be pushed to such an extent as if we expected to make a complete cure of the disease of the heart, for that is impossible. Leeches, rest, and opiates are mainly to be relied on.

We come, now, to those conditions which our author describes as the

unrepaired effects of endocarditis and pericarditis constituting a permanent unsoundness of the heart in themselves, and which become the cause of changes in the nutrition of the heart,—of those lesions which are usually denominated organic. These effects are stated to be, for the endocardium, opacity and thickening of a part or of the whole of one or more valves; a cribriform state of these structures; or the severance of a tendinous cord; and it is further urged, as a fact that has never before been noticed, that these remnants of unsoundness continue ever afterwards without increase in their own kind, contrasting in this respect with deposits of cartilage, bone, and atheroma, in the same parts, which go on increasing indefinitely. If the distinction here contended for were real, there would be no difficulty in deciding when the endocardial alterations found after death are of inflammatory origin, and when mere perversions of nutrition; but morbid anatomists are by no means agreed in regard to them. Those of them who have most carefully examined the subject, as Bizot, Rokitansky, and Haase, incline to the opinion that these lesions are not always distinguishable from one another, that they are not generally of inflammatory origin, and hence that their frequency is not a correct measure of the frequency of endocarditis. Yet their importance in the history of endocarditis depends upon their being related to it as a cause. Throughout the whole of these lectures Dr. Latham keeps prominently before the mind the perils which sooner or later overtake those whose hearts have been inflamed, perils which of course depend, chiefly, either upon the obstacles presented to a free circulation of blood through the heart, or upon a morbid increase of the propulsive power of the heart. How is it possible to reconcile this doctrine with the following passage? “It has already been stated as a very general fact that the louder the endocardial murmur the less the amount of valvular impediment. Now in *almost all* cases where the heart’s unsoundness is traceable back to an attack of rheumatic endocarditis, the murmur is apt to be peculiarly loud. In such cases then the inference would be that the valvular impediment is not great:”—or with the fact above stated that the unsoundness is stationary in its own kind:—or with the other that many, very many, years may elapse before the altered nutrition of the heart may reach the point at which it deserves the name of a disease? Still less does it harmonize with the results of Louis’ researches, as given by Valleix; to wit, that in three-fifths of the cases analyzed by him there was no relation between the lesions of the endocardium, at the valves, or elsewhere, and the production of hypertrophy with or without dilatation. It is not denied that a constant, unchanging lesion of a valve *may* produce a steadily progressive alteration of the muscular structure of the heart, requiring many years to reach its maximum; but there does seem to be very strong reason to believe that such lesion is often erroneously attributed to endocarditis; that the changes of the muscular structure and its consequences are often independent of valvular disease; and therefore that the ultimate perils of endocarditis are not fairly indicated by the frequency of organic disease of the heart.

The lecture on permanent unsoundness from pericarditis presents nothing peculiar, unless it be the opinion that there may be successive attacks of inflammation resulting in the deposit of several layers of fibrin. In the following lecture the subject of analogous formations, cartilage and bone, in the heart, is considered, and our ignorance of their origin and clinical history lamented. Their chief points of interest were alluded to in the last paragraph. In lecture the twenty-fifth, acute suppurative inflammation

of the substance of the heart is treated of. But this inflammation has "no clinical history to tell us when to expect it, no sure diagnosis to tell us when it is present, and consequently no definite indications of treatment either for prevention or cure." Two cases, neither of which was seen by Dr. Latham, and which he believes, incorrectly, to be the only ones on record, are related at length. In one, all the symptoms were referable to the brain and spinal marrow; in the other the intellect was clear throughout, but the præcordium was the seat of intense anguish, which came on paroxysmally. The former was complicated with pericarditis, the latter, not. There is no less difficulty attending the diagnosis of partial dilatation, or proper aneurism of the heart. The walls of the affected ventricle may gradually be pierced by the destructive process of ulceration, and no warning given until the blood rushes through the opening into the pericardium, and the patient instantaneously dies. But life may be quite as abruptly terminated by rupture of the heart where there has been no ulceration, but only softening of its muscular tissue, or the deposit of fat amongst the muscular fibres. Softening by either of these modes may involve life without going to the extent of producing rupture of the heart, but by depriving it of its power to contract. Rupture can hardly take place when the softening is general, for the heart in that case is too feeble to tear its own substance. Of this simple softening we have a good illustration in petechial typhus, and its most trustworthy signs are an irregular, weak, and intermitting pulse, and the first sound of the heart becoming almost inaudible. The usefulness of wine, under these circumstances, as demonstrated by Dr. Stokes, is one of the best fruits which auscultation of the heart has produced. In the fatty heart the proper tissue of the organ is sometimes, not merely mixed with fat, but absolutely removed, and its place occupied by adipose matter. Of this condition, too, there is no sure diagnosis, but only a probable conjecture; and that only when dilatation has succeeded, as it usually does. Then by auscultation we learn that the heart is feebler, and more capacious than natural, and observing that the patient is corpulent, we infer, as very probable, that his heart is affected with fatty degeneration.

We come now to those alterations of nutrition which become diseases by mere excess or deficiency of natural elements; hypertrophy, atrophy, and dilatation. These Dr. Latham includes under the name "unsoundness from disorganization." An exceedingly faulty term; for by disorganization is meant the destruction of an existing arrangement of parts, not addition to or subtraction from their aggregate. The only remark upon these subjects which calls for notice, is that "hypertrophy and atrophy of the heart, dilatation and contraction of its cavities, seldom, perhaps never take place but where some disease or unsoundness had previously existed, either in the heart itself, or in other parts of the body, from which they are derived as a natural and necessary consequence." Our author traces out the dependence of many cases of these diseases upon valvular and pericardial lesions, and these to acute rheumatism, and others, again, to softening and degeneration of the muscular substance. But taking the observations of Louis, already quoted, it seems highly probable that Dr. Latham has exaggerated the frequency of the connection of these lesions of nutrition with previous ascertainable disease. One of these causes, or disorders ultimately productive of hypertrophy, &c., is described as an "accidental shock," such as a blow upon the region of the heart, some sudden and powerful effort, &c., resulting in the rupture of a valve in some instances,

and in others, as our author suspects, in damage to the muscular structure itself. Such causes do not, however, uniformly produce organic changes of the heart; sometimes their immediate effects are pain and a horrible sense of sinking, and these are succeeded by palpitations, which, though excited by exercise, mental emotion, &c., at length disappear. An interesting example of their more serious consequences is the following. A man was beaten, plundered, and thrown into a ditch to die. The next day he was taken home. "He was disabled by the bruises he had received, and by *palpitation* of the heart and dyspnœa which he had never complained of before, and was never again able to return to his ordinary occupation. He became dropsical, and had all the signs of hypertrophy and dilatation of the heart. After some months he died; the muscular substance of his heart was enormously amplified and all its cavities enormously dilated, its pericardium and lining membrane free from disease."

Dr. Latham next proceeds to consider other causes of "unsoundness from disorganization" beyond the heart itself, even in other organs, and in the constitution at large. Hypertrophy and dilatation are found to coincide as well with enlargement as with narrowness of the aorta; in the one case the heart is called upon to overcome an impediment to the circulation consisting in an unnaturally large column of blood, in the other the obstacle is the contracted walls of the artery. This latter mischief may be congenital; of this fact a striking and interesting illustration is presented by the case of a little girl five years old, at every part of whose chest "the heart could be felt acting with an enormous impulse." After death the aorta was found about one-half of its natural size, but otherwise healthy. Diseases of the lungs which offer an impediment to the transmission of blood are mentioned as producing effects upon the heart "which are, however, partial only, and limited to the right side, and consist in dilatation of its cavities." This statement is not applicable to the enlargement of the heart accompanying emphysema of the lungs. The hypertrophy here affects the left side. In tubercular phthisis, as is well known, the heart is diminished in size notwithstanding the obstruction of the pulmonary tissue. This apparent exception our author explains by the fact that the quantity of the blood to be circulated is lessened in this disease by the constant draining of secretions from the lungs, bowels and skin. It is rather questionable logic to infer as he does that these symptoms of progressive decay "seem to arise out of an express provision of nature for prolonging the duration of life." Deformities of the chest may also be regarded as productive of disease of the heart by impeding the circulation. Dr. Latham is disposed to look upon extensive ossification of, or atheromatous deposits in, the arterial system, as sometimes productive of hypertrophy and dilatation; but at present he does no more than assert their frequent coincidence with these lesions of nutrition.

In lecture the thirtieth, the *treatment* of valvular disease is examined. Its cure is, of course, not within the power of art, but those further structural changes of the heart which are liable to follow it may be prevented or greatly postponed. But only by the patient's carrying out fully the treatment prescribed for him. "It must engage every hour of his life and be allowed to interfere with all his habits, and conduct and objects;" it demands a large amount of self-sacrifice. One short sentence contains the sum of all the precepts which such a patient must obey: avoid everything which increases the action of the heart. And this even before hypertrophy comes on. When this condition does arise, whether as a consequence of

valvular disease, or independently of any anterior unsoundness, can it be cured? Dr. Latham says, emphatically, no: and in this agrees with nearly all competent authorities except Dr. Hope, whose opinion, indeed, he criticises justly. There is a mock hypertrophy. Impulse has too often been considered as indicating hypertrophy, when it occurs in the plethoric and sedentary, in the pale, thin, dyspeptic and nervous, in the anemic, and occasionally without any evident complication. Here Dr. Latham's fondness for antithesis leads him into the very error he is combating. "Hypertrophy," he remarks, "cannot exist without excess of impulse, but excess of impulse can exist without hypertrophy." The first member of this sentence is incorrect. (*Vid. Am. Journ. Med. Sci.*, vol. xii., N. S., p. 175.) But supposing hypertrophy to be fairly made out, its symptoms may be mitigated by bleeding occasionally from the arm, and then very moderately, and by leeches over the heart, and cups. But beware, above all things, "of bleeding your patients into paleness and poverty of blood;" a state of anæmia will augment the palpitation tenfold, and may even so exalt the sensibility of the brain, that each throb of the heart shall strike like a hammer upon the brain, and bring on delirium and death.

Simple attenuation of the heart without complication, equally with the form accompanied by softening, is incurable. The softening which occurs in low fevers and its remedy have already been noticed. The treatment of that depending on scurvy, or on anæmia, must be merged in the treatment of the general conditions. Here, if the cure of the general disease is complete, so is that of the local one, and there is little danger of any subsequent mischief, as there is after inflammation of the heart. Dilatation without hypertrophy is impossible while the tissue of the heart remains sound; but when it has lost its elasticity by softening, then it may become dilated, or rather distended, and, of course, attenuated. Hence simple dilatation is only a consequence of other states, and they, not it, are the proper subjects of treatment.

We have done now with the more direct consideration of heart disease; let us turn to examine its consequences in other organs. Owing to the imperfect, or rather incomplete, manner in which the tricuspid valve closes its proper orifice, an impediment to the circulation of the blood in the lungs or heart throws back the current and distends the systemic veins. On the other hand the arteries are imperfectly filled, or fully and forcibly, or sluggishly distended according to the capacity and strength of the left ventricle. Again, the supply of arterial blood is free or scanty, regular or irregular, according to the condition of the valves. Here is the machinery by which organs may be robbed of their due supply of blood; or, receiving too large a quantity of it, become the seats of congestions, inflammations, hæmorrhages, and dropsies. Now, although these diseases depend upon an irreparable lesion, they are still, within certain limits, curable. In ordinary, and strictly curable maladies, the cause and effect are removed together; but in those secondary affections we are considering, the effect only is under our control; their cure can be only temporary. And the completeness and duration even of this qualified cure, depend on the nature of the heart disease. Simple hypertrophy permits the most favourable results; valvular disease the least. But unfortunately, unsoundness of the heart is only too apt to be complicated with organic disease of other parts.

"If I except those cases," says Dr. L. "in which the damage done to the heart could be clearly traced back to some distinct attack of accidental disease, such as rheumatic inflammation, my records of dissections do not supply me with

a single instance of a person reputed to die of disorganized heart and its consequences, in whom after death other parts also were not found disorganized, such as the liver, the kidneys, serous and mucous membranes, and above all, and more frequently than the rest, the whole arterial system."

The heart, therefore, is not always to be blamed for the ill success of our treatment of secondary affections. It often depends, too, upon the patient's constitutional plethora or anæmia, and still more upon his external circumstances. "The man, who, having an unsound heart, must traffic with his sinews for his daily bread, has a poor chance of benefit from medicine."

The lecture which treats of the particular secondary affections co-incident with diseased heart, is one of the most interesting in the work, but no analysis can do it justice. It must be studied at length. It gives the history of that intercommunity of morbid action by which the heart and lungs bear each other's burdens, or enhance each other's perils; and of those dangers to the brain, both when sound and when diseased, to which it is exposed from passive as well as active congestion. It lays down also sound precepts for conduct in these alarming and perplexing cases.

In the following discourse dropsy is discussed. The act of effusion is a salutary one; but the accumulation of fluid is mischievous. We should therefore substitute for that flow which is taking place into a serous cavity, one from the kidneys, or bowels, or skin, and the earlier the better. Here those who are well off in the world have superior chances of life. "They cry out as soon as they are hurt, and they no sooner cry than they get well attended to, and obtain all the aids of medicine, just when it is most likely to do them good. But the poor man looks down upon his swelled ankles a long time without complaining." But here, as elsewhere, there is compensation. The dropsy of the rich man does not come until it can no longer be prevented, and then is too often irremediable; but the toil of the poor man brings on his effusion rapidly, which the repose of the hospital and simple medicine as rapidly removes. For this purpose cathartics are greatly more serviceable than diuretics.

After having passed in review all these organic and tangible causes, diseases, and effects of diseases of the heart, Dr. Latham concludes with a notice of angina pectoris, a disease of symptoms only, for so we, in our present ignorance, must call it. He defines it thus: "Pain of extreme severity passing through the chest, from the sternum to the spine, arising suddenly and ceasing suddenly, and accompanied, while it lasts, with a feeling of approaching death." Three cases of it are given, all of them fatal within a fortnight from the first seizure. In two of them the muscular tissue of the heart was reduced to an extreme degree of tenuity and softness, in the other the coronary arteries were converted into calcareous tubes. And these conditions are considered by Dr. Latham sufficient causes of the fatal angina in the cases to which they respectively belonged, but as not explaining the symptoms any better than the lesions which have been found in other examples of the disease. All of these lesions he regards but as exciting causes of *spasm of the heart*, hence the pain, hence also the imminence of death from the sudden stoppage of the fountain of life. In treating a paroxysm of angina pectoris, we must choose those stimulants which act most quickly, as ether and ammonia. A teaspoonful of each should be given at the very commencement of the attack, just so much diluted with water as will allow them to be swallowed, and this dose must be repeated at intervals until the paroxysm yields. Generally the attack is too short

to admit of opium taking effect, but in protracted cases it should be administered boldly. Dr. L. recommends a drachm of laudanum to be given every quarter of an hour, for three or four times, while the pain lasts ! The paroxysm over, its cause is to be searched out, in order that a treatment may be adopted appropriate to the peculiar disease of the heart, if this organ is altered in structure. In nine out of thirteen cases analyzed by Dr. Latham, the auscultatory signs and percussion indicated feebleness of the heart, either from simple atrophy, or from fatty transformation. The discovery of these or other morbid conditions will suggest the proper management of the case. Fatigue, mental emotion, whether exciting or depressing, indigestion, repletion, ingurgitation, must all be scrupulously shunned. So the danger may be lessened, if it cannot be wholly averted.

Such is the general plan and argument of one of the most remarkable books which have lately been added to medical literature, remarkable in its mode of viewing the subject, remarkable in its mode of investigating it, remarkable for its measure of valuable results, remarkable, nay, unique in its literary style. No one who wishes to get new and clear notions of the tendencies and relations of diseases of the heart, will fail to study these lectures ; he will find in them much that no other work upon the subject contains, and, what is even better, much that will move him to observe more closely, and ponder more earnestly, what is going on within his own experience. Let him not be deterred from the study by the involved, redundant, and antithetical, though strictly correct style of the work. It may mar the rapidity of his reading, but he will be repaid for his tardy progress, by the richness and variety of the thoughts. Had not so high an estimate of the work been felt to be no more than strictly just, we should not have ventured to criticise its defects so freely. There could be no doubt that it must carry with it a deep and permanent influence, and direct the opinions and practice of many hundreds of the profession. It became, therefore, a duty to do what in us lay to counteract the evil that is mingled with so much good. If our task has not been performed skilfully, it has at least been directed by a spirit of candour, and executed with patient deliberation.

A. S.

BIBLIOGRAPHICAL NOTICES.

ART. XIII.—*A Treatise on Diseases of the Air Passages—comprising an Inquiry into the History, Pathology, Causes and Treatment of those Affections of the Throat called Bronchitis, Chronic Laryngitis, Clergymen's Sore-throat, &c. &c.* By HORACE GREEN, A. M., M. D. New York and London: Wiley & Putnam. 8vo. pp. 272.

In these days of our literary dependence, when the best minds and the largest accomplishments of our medical countrymen are too often made to play the insignificant part of a master of ceremonies, introducing to the profession some foreign book, and then withdrawing from notice, with the gain of little credit but for courtesy,—it is refreshing to see the announcement of a work which, for good or evil, we may call our own: something which shall stamp its author with a positive value, and assign to him his proper station in the medical fraternity,—a contribution of materials, however small, to build up that national literature of which it is humiliating to reflect that the foundations are scarcely laid. It was cheering, therefore, to learn that a work had been published professing to treat of a class of diseases of which no country presents more numerous examples than the United States, and no part of that country more than the particular field of the author's observation. We were prepared to find in it familiarity with the pathology of the respiratory organs, a knowledge of what had been written and done concerning their treatment, and this augmented and improved by a long and extensive experience. How mortifying a disappointment we experienced, it is our unwelcome office to disclose.

The discursive title by no means truly describes the book which bears it. No diseases of the air passages are therein considered, unless incidentally, besides "follicular inflammation" of the larynx. The object of the treatise is to prove that this affection may be cured by a strong solution of lunar caustic, applied to the interior of the larynx by means of a piece of sponge attached to a whalebone handle. MM. Trousseau and Belloc long ago showed satisfactorily that this operation was not only feasible, but often capable of curing chronic laryngitis. Yet of these gentlemen the author speaks as follows (p. xi. of the Introduction):

"While I claim no credit for having originated the practice myself, I, on the other hand, give these authors none, for having, so far as I am concerned, suggested it; for I had been in the practice of cauterizing the larynx *nearly two years* before I had ever heard of Trousseau and Belloc. Their work was translated, and published in this country in 1841. In 1838, when in London, I had a conversation with Dr. Johnson, the late editor of the *Medico-Chirurgical Review* on the subject of chronic laryngeal disease."

Dr. Johnson referred to the frequency of the affection among public speakers, and suggested "that if proper applications could be applied below the epiglottis, no difficulty would occur in treating, successfully, the disease." Acting upon this suggestion, the author, on his return home succeeded "in entering the larynx, and thereby curing a well marked and severe case of laryngeal disease."

Now, it is surprising that Dr. Green did not know that the two physicians already named had given their method to the world at least eighteen months before his interview with Dr. Johnson. Their Essay was "crowned" at the meeting of the Royal Academy of Medicine, held on the 9th of August, 1836, printed in the *Memoirs of the Academy*, and published by themselves in 1837, and in the same year republished at Brussels. And it is no less astonishing that there should have been no mention of this work in a conversation held with the editor of the very periodical in which, a few months before (Jan. 1838), it had been reviewed. And if the reported conversation took place subsequently to April, 1838, it passes belief that neither Dr. Johnson nor Dr. Green should have been acquainted with an elaborate notice of MM. Trousseau and Belloc's essay which appeared in the *Br.*

and *For. Med. Review* for that month, in which the process of these gentlemen for cauterizing the larynx is given in full.

Nor is it easy to explain why Dr. Green should state that the translation of the essay appeared in this country in 1841, when a reference to its title page would have informed him that it was published in Philadelphia in 1839; nor how it happened that (vid. p. 197) "*several years* before the publication in this country of the work of Trousseau and Belloc, . . . he (I) became fully satisfied that for safety, efficacy, and certainty of action, no known local, therapeutic agent, can compare with the crystals of the nitrate of silver, in the treatment of laryngeal and bronchial affections,"—since he affirms that the suggestion on which he founded the practice was received in London, at the furthest, *one year* before the issue of Dr. Warder's translation.

Either there is a strange forgetfulness of the real circumstances which led the author to adopt the practice in question, or he must have remained in profound ignorance during three years and more of what was then notorious throughout the medical republic. Singular as the facts above mentioned must be considered, it is scarcely less so, that, not only is the general method of Dr. Green identical with that of the French writers, but that the resemblance extends to particulars, to the mode of applying the caustic solution, and to the strength of this latter, which is certainly greater than was previously employed in applications to the mucous membranes.

It must, still, be admitted that there is one point of dissimilarity between the two plans; the treatise of Dr. Green advises us to go a step farther than the Parisian doctors. They, indeed, proposed and employed cauterization of the larynx by bringing a piece of sponge, saturated with a strong solution of nitrate of silver, *in contact with the opening of the larynx*, and allowed the expressed fluid to flow into this organ, an operation which they confess that few persons will submit to a second time. They even went so far as to introduce the end of a *small roll of paper*, moistened with the solution, into the *upper part* of the larynx. But our bolder, or more dexterous manipulator speaks of thrusting a piece of whalebone, armed with sponge, down to the inferior vocal cords!

If Trousseau and Belloc were forced to substitute irrigation of the larynx with a syringe, for the application of the sponge, even to the aperture of the glottis, we question whether the recommendation of the author of the present treatise, backed though it be by the foregoing proofs of the originality of his method, will induce any discreet physician to thrust a miniature probang into the larynx, still less into the chink between the vocal cords, when the mucous membrane in these situations is made friable by inflammation, or already torn by ulcers. The objection to bringing a solution of lunar caustic into contact with the diseased surface is comparatively small, but the danger of conveying it thither after the manner of Dr. Green no such evidence as this work furnishes can ever disprove.

Whatever merit belongs to the treatise consists in its setting forth a tolerably full account of that form of chronic pharyngitis, which, with secondary chronic laryngitis, has so extensively prevailed in this country since 1830. In Europe it hardly finds a place as a distinct disease, in the systematic treatises, for the reason, probably, that it has hitherto been of rare occurrence in that country. It is only within the last year, that Chomel furnished a full description of this troublesome disorder, and, in doing so, he remarked that it seemed to have escaped observation almost entirely. He styles it "*granular pharyngitis*." Dr. Green gives it the ominous title of *tubercular sore throat*. The cryptæ, he says, "*uniting, form angry looking tubercles*, of the size of a split pea, which may be seen on the posterior wall of the pharynx." Or they may become distended "*with a morbid secretion which will exhibit all the physical properties of tuberculous matter*." Now, the words tubercle and tuberculous are, in the minds of most persons, within and without the medical profession, associated with an idea of inevitable death. Consequently the physician who announces his ability to cure tubercular sore-throat, soon comes to be regarded as little less than a worker of miracles, and his fame flies abroad upon the wings of newspapers, and his praise is upon the tongues of the whole legion of clerical and female gossips throughout the land.

Our author uses the words tubercle and tuberculous in their technical, pathological sense, and takes Louis, and the rest of the world who accept his conclusions, roundly to task, for asserting it to be a law of the system that, after the age of fif-

teen, tubercles are not formed in the upper air-passages; and that if this does occur in some cases, it is only by a very rare exception. Haase is quoted triumphantly to refute this rash conclusion. With what propriety may be judged, when we find the Swiss Professor declaring, in regard to laryngeal ulcers, superficial as well as excavated, that "Louis reckons them mere products of chronic inflammation, kept up by the irritant quality of the sputa in phthisis." Louis expressly asserts that "this is not the sole cause of the ulcers, because they may exist where there are no cavities in the lungs, and because they are not produced by the contact of the irritating sputa of pulmonary gangrene." Undoubtedly, they are sometimes tubercular; the only question is, in what proportion of cases they are so? As well as can be gathered from the present treatise, its doctrine appears to be that they are generally tuberculous, but, in most cases, independently of disease in the lung, though tending to produce it. Hence the importance of their cure! But here the stubborn results of Louis' investigations meet the author. If the ulcers of the larynx are tuberculous, a hundred chances to one there are tubercles in the lungs. There is no direct way of escaping from this law. For what says Haase: "I am not aware of any instance of the larynx and trachea running through a course of tubercular disease independently of pulmonary phthisis. The cases recorded by Trousseau and Belloc, as such, were in reality either of a syphilitic or of a carcinomatous character, &c., and had no connection with tubercle." Louis had already shown the irrelevancy of these cases. But, insists Dr. Green, "ulceration of the follicles of this membrane are occurring frequently, independently of phthisis." Again we quote Dr. Haase: "tubercle commonly accumulates within the capsules of the muciparous glands." Therefore, if the follicles are ulcerated, the chances are that the lungs are tuberculous. We beg to hold Dr. Green to this point. If he will have the granular inflammation of the pharynx and larynx tubercular he must submit to take tubercular lungs along with it. And what then becomes of the astonishing cures he has wrought? Or if the cures were real and permanent, and the lungs, therefore, not diseased, we should be glad to know, upon what medical, scientific ground, he has designated the malady, so often cured, as tubercular sore-throat?

The opening of the chapter on "the treatment of follicular disease" is defaced by one of the most unpardonable mis-statements it has been our lot to meet with. Dr. Chapman is there quoted as recommending a certain treatment for the cure of chronic inflammation of the larynx "of the ordinary kind;" as confessing also that it often fails, and that when it does so, the practitioner is left "nearly destitute of resources." Now, not one word is said by the author to indicate that chronic laryngeal inflammation "of the ordinary kind" is carefully distinguished by Dr. Chapman from "clergyman's sore-throat;" but, on the contrary, the impression is, and must be, made on every reader of the passage, that the disease of which Dr. Chapman laments the obstinacy, and that which Dr. Green confidently pronounces curable, are one and the same, the disease, namely, which the chapter professes to treat of—"follicular disease." Yet upon the very page where Dr. Chapman records the difficulties of treating successfully chronic laryngitis "of the ordinary kind," he expressly excludes from the discussion those forms of laryngitis which he regards as complicated with other affections. These are his words: "Take, as illustrative of my meaning, the case of the modified disease, so prevalent among our clergy. Commencing, I have said, in depravity of the digestive organs, the rectification of this apparatus is indispensable to the relief of the secondary and consequent affections. Guided by this principle, I have, at least, cured a host of cases, which had, or would have, resisted a different mode of management." It must be a feeble cause that needs the support of misrepresentations like this.

Dr. Green, not content with contesting MM. Trousseau and Belloc's claims to being the sole inventors of laryngeal cautery, is unwilling that M. Boudin should enjoy the credit of having first pointed out the (alleged) antagonism of phthisis and malarious fevers; first claiming for himself priority in the discovery, and then admitting that neither he nor M. Boudin is entitled to it. He, nevertheless, asserts the fact of such antagonism, and insists, moreover, upon the value of "miasmatic exhalations as a therapeutic agent, in the treatment of pulmonary diseases." "For many years," he observes, "I have been in the habit of advising my patients who were labouring under phthisis, or follicular disease complicated with phthisis, to visit places where an *aguish atmosphere* prevails." To illustrate the advantages of

this mode of treatment, three cases are given as amongst the most interesting of those which came under the author's observation; yet not one of which furnished any conclusive reason for believing it to be a case of tubercular consumption; for in none is there any record of auscultation having been practised. It appears from these examples that there is not a fair reciprocity between phthisis and ague; intermittent fever may prevent or cure phthisis, but the converse proposition fails; since all of the patients mentioned were attacked with ague in their sanative residence.

We need say little more of this treatise, except that it is printed with large type upon fine paper, a merit which it were well if medical books more generally possessed; that it is stereotyped, under the conviction, doubtless, that in a second edition it would require neither alteration nor improvement; and that it is illustrated by several coloured prints of follicular fauces which are hideous to behold.

It is an irksome duty to write thus disparagingly of an original American work, but we regard it as a paramount obligation resting upon all critics, to speak the truth without fear or favour. Sometimes, indeed, they may find certain features in a work, so admirable as to redeem many and evident defects, and then, they are privileged to bear lightly upon the more ungrateful part of their task. But in the present instance there is a moral defect for which nothing can compensate; a want of candour and fairness which no scientific excellence (if there were any) can atone for, and which, it must be confessed, would suffice to give an unfavourable bias to the most impartial judgment. Of the medical part of the work there is little new that is good, and still less good that is new. There is much in its arrangement which renders it next to useless as a pathological treatise; and much in its style which reminds one of those books which bear "internal marks of being addressed more to the public than the profession," and which Dr. Latham so emphatically cautions his pupils "never to read."

A. S.

ART. XIV.—*A Practical Treatise on the Diseases of Children.* By FRANCIS CONDIE, M. D., Secretary of the College of Physicians, &c. Second edition, revised and augmented. Philada.: Lea & Blanchard, 1847: 8vo. pp. 657.

THE issue of a second edition of this work proves that the favourable opinion of it expressed by us three years since, has been ratified by the medical public. We learn from the preface of the present edition that "every part of the work has been subjected to a careful revision; several portions have been entirely re-written; while, throughout, numerous additions have been made, comprising all the more important facts in reference to the nature, diagnosis, and treatment of the diseases of infancy and childhood, that have been developed since the appearance of the first edition." From a careful comparison of the two editions we are enabled to testify to the literal correctness of the foregoing statement. Several defects of classification have also been remedied; numerous peculiarities of orthography made to correspond with the received standards; many even minute errors and lapses carefully corrected; long paragraphs broken into more manageable portions; and lists of references, which before disfigured the composition by interrupting its continuity, have either disappeared, or been incorporated with the text. We have only to regret that while the author was thus improving the mechanical execution of his book, he did not perfect it by distributing his remarks under distinct heads, which would have greatly facilitated reference to particular points, and thereby increased the usefulness of the work. None can know better than himself the weariness of searching many pages for a passage to which there is no guide, and we trust, therefore, that in subsequent editions he will not neglect this expedient which is so peculiarly necessary in a work on practical medicine.

The introductory portion of the present edition relating to the pathology of infancy and childhood, is enriched by an excellent summary of the different forms of pneumonia in early life, a notice of the various affections of the nervous and lymphatic systems, a full account of the laws of development of tubercular and cardiac diseases; a sketch of inflammation of the kidney; and some remarks relative to alterations of the milk and the causes producing them.

In the article on polypus of the rectum much additional information is given regarding this affection; and in that on bronchitis a succinct notice of its capillary form renders the history of the disease complete.

The greater part of the article on pneumonia has been written anew, and all the valuable additions which have lately been made to our knowledge of its pathology fully and clearly set forth. The physical and diagnostic signs of pleurisy, and much new matter connected with the operation of tracheotomy in croup, are given in their appropriate places. An entirely new article upon spasmodic croup now sets this affection in true contrast with Kopp's asthma, or spasm of the glottis, along with which it was described in the first edition; and in like manner acute meningitis and tubercular meningitis, which were before imperfectly distinguished, many of the peculiar phenomena of the latter having been referred to the former malady, have each a thorough and satisfactory consideration.

Under the head of measles we notice many important additions to the symptomatology of the disease, and under that of scarlatina a more detailed account than before of the dropsy which so frequently attends the decline of the attack. The experiments of Dr. Stievenart of Valenciennes, and of Dr. Irwin, of South Carolina, in regard to the prophylactic power of belladonna in epidemics of scarlet fever form a valuable complement to this interesting chapter.

The discussion of the protective powers of vaccination is entirely remodeled, and many new conclusions and facts relating to this very important topic are, for the first time, brought together. We regret, however, that the author found it necessary to omit the greater part of the vaccine statistics previously furnished by him.

An extremely valuable addition is that containing the morbid anatomy, the symptoms and the diagnosis of tuberculization, as it occurs in the different structures and organs of the body, and for which the author avows his indebtedness to the treatise of Rilliet and Barthez.

In the article on cyanosis, the greater part of which is written anew, reference is made to the essays of Dr. Craigie and others who have proved that the blue discoloration of the skin does not depend upon the mixture of venous with arterial blood in the vessels. But we do not think that with the facts and arguments of these writers before him, the author is entitled to attribute any part of the cyanotic colour to an imperfect arterialization of the blood in the lungs. The conclusion drawn by the writers themselves is that it is entirely owing to venous congestion.

It will be evident from this summary that the present is very far from being a mere reprint of the first edition of Dr. Condie's treatise, that it is really what it professes to be, "revised and augmented," and that it embraces "a full and connected view of the actual state of the pathology and therapeutics of those affections which most usually occur between birth and puberty." We therefore heartily commend it anew to the medical profession, assured that it contains a far more complete exposition of its subject than any other treatise on the diseases of children in the English language.

A. S.

ART. XV.—*Materia Medica and Therapeutics—including the Preparations of the Pharmacopæius of London, Edinburgh, Dublin, [and of the United States,] with many new Medicines.* By J. FORBES ROYLE, M. D., F. R. S., late of the Medical Staff of the Bengal Army; Member of the Medical and Chirurgical Society of London; of the Medical and Physical Society of Calcutta, and of the Royal Medical Society of Edinburgh, &c.; Professor of *Materia Medica and Therapeutics*, King's College, London. Edited by JOSEPH CARSON, M. D., Professor of *Materia Medica* in the Philadelphia College of Pharmacy; Member of the American Philosophical Society, &c., with ninety-eight illustrations. Philadelphia, Lea & Blanchard: pp. 689, 8vo. 1847.

DR. ROYLE's reputation as an able botanist and as an assiduous investigator of the medical properties of plants has been fully established by his various publications on these subjects, but more especially by his illustrations of the Botany of the Himalaya mountains, and the present work will in no measure detract from his

well earned fame. It is extremely difficult to prepare a work on *Materia Medica* which is at the same time sufficiently full to convey the required information and yet so condensed as not to weary and perplex the student. The departments of Therapeutics and of *Materia Medica*, each, present so wide a field that a mere synopsis of either of them can scarcely be compressed within the limits of a single volume, and hence, when it is attempted to combine a view of the facts and doctrines of both in such a space, undue importance must be given to one or the other, or both of them will be treated in a superficial and unsatisfactory manner.

From this cause the work of Dr. Royle, as well as that of Drs. Ballard and Garrod, is not exactly what could have been wished. As concise treatises on the principal articles of the *Materia Medica*, they are both admirably suited to the wants of the student, but they are deficient in the portions relating to the application of these articles; nor from their plan could this have been avoided for the reasons just stated. The only work in the English language that fulfils both these conditions is the excellent one by Pereira, which, whilst it gives a full account of the origin and characters of medicinal agents, is also very full on their general and special actions on the system.

The plan of Dr. Royle's work is as follows:—After a general view of the objects of *Materia Medica* and Therapeutics, he gives a short sketch of the operations of Pharmacy and of Pharmaceutic Chemistry, followed by an account of the various remedial agents arranged according to the kingdom of nature to which they appertain; this is followed by a brief therapeutic arrangement, founded on the main characteristics of the several classes of remedies with references to the articles belonging to each class, noticed in the main body of the work; and the whole concluded by a table of antidotes to the principal poisons.

As a work on the articles of the *Materia Medica* and their preparations, it deserves the most unqualified praise. In the portion devoted to substances derived from the vegetable kingdom, there is, as might have been expected from the author's laborious researches in Medical Botany, a great amount of new and interesting matter, respecting the origin and nature of some of the most important of the vegetable remedies. The accounts of the plants furnishing assafoetida, rhubarb, bebeerine are peculiarly deserving of notice, and throw much light on the disputes relative to them. There are numerous and well executed wood-cuts illustrative of the several subjects considered, which add much not only to the appearance, but to the intrinsic value of the book. We may remark in addition that it is remarkably well "got up" in all that regards its typography, paper, &c.

The present edition has been issued under the supervision of Dr. J. Carson, who has not only added many important articles on our native *Materia Medica*, but has also inserted the preparations of our national Pharmacopœia, so as to render it more generally useful to American students and practitioners. In conclusion we may say, that we can recommend the work to the attention of the profession, as an excellent and useful compend on the *Materia Medica*.

We subjoin a few extracts to show the manner in which the author has treated the several subjects:—

"HELLEBORUS, L. E. D. (U. S.) Radix. The Root. HELLEBORUS NIGER, Linn. E. D. (H. officinalis Sibth, L.) *Polyandria Trigynia*, Linn.

"Black Hellebore, so called from the colour of its roots, and Christmas Rose, from flowering in winter, is a native of the shady woods of the lower mountains of many parts of Europe.

"*Bot. Ch.* The plant is herbaceous, with a perennial blackish-coloured rhizoma, tuberculated and scaly, from which descend numerous thickish radicles. The leaves, which sometimes make their appearance after the scape, are radical, with long, cylindrical, and spotted footstalks, pedately divided, with the lobes from seven to nine, oblong lanceolate, sometimes cuneate-obovate, largely serrated towards their apices, and arranged apparently along the forked terminations of the petiole; they are stiff, almost leathery, of a dirty green colour, smooth above, paler and reticulate beneath. The scape is shorter than the petiole, furnished with two or three oval bracts, often simple and single-flowered, sometimes forked and two-flowered. The flower is large, terminal, white, with a tinge of pink, the most

conspicuous part being the petaloid calyx: of this the sepals are five, ovate, and permanent. The petals, eight to ten, are small, greenish-coloured, tubular, tapering towards the base, with the limb tubular, bilabiate, and their outer margins terminated in a tongue-shaped lip. Stamens numerous, longer than the petals. Ovaries six to eight. Stigmas terminal, orbiculate. Capsules follicular, leathery. Seeds many, elliptical, umbilicated, arranged in two rows.—Jacq. Fl. Aust. t. 201. B. M. t. 8.

“Hellebore root is usually imported in bags and barrels from Hamburgh, sometimes from Marseilles. (p.) French authors state that they are supplied from Auvergne and from Switzerland. The so-called roots, consist of the root-stock and of the radicals; the latter are chiefly recommended; the former some inches long, and half an inch thick, straight or contorted, is marked with transverse ridges, being the remains of the leaf-stalks, and on the under surface with long fibres, all more or less of a dark brown colour, internally with a white point in the centre. The odour of the dried root is feeble, but has been compared by Geiger with that of Seneka root. The taste at first sweetish, soon becomes bitter and nauseously acrid. Dr. Christison says he did not observe the roots to be acrid in February, and that the dried roots are not acrid. (Goebel and Kunze, 11. Tab. xxxi. fig. 1. a.)

“*Prop.* Hellebore root has not yet been satisfactorily analyzed. Feneulle and Capron found in it both a Volatile and Fatty Oil, a Volatile Acid, Resinous matter, Wax, a Bitter principle, Mucus, Ulmine, Gallate of Potash, Supergallate of Lime, and an Ammoniacal salt. They ascribe the activity of Hellebore to the union of the concrete oil with the volatile acid. As the root loses some of its efficacy by drying and also by long keeping, it requires to be frequently renewed. Water extracts some of its virtues, but Alcohol is the best menstruum.

“*HELLEBORUS OFFICINALIS* of Dr. Sibthorp (Fig. 35) found by him on hilly ground in Greece and the Levant, has been figured in Fl. Græca, t. 583. It was considered by Dr. S. to be the Black Hellebore of Dioscorides, being still used and called Zoptima by the Turks, and *Σμαρφν* by the Greeks. It had been discovered previously by Tournefort, and was called *H. orientalis* by Lamarek. Though this probably afforded the roots employed by the ancients, yet as it seems never to be brought to this country, it should not have been adopted as the official plant by the London College. It is intermediate in character between *H. niger* and *H. viridis*, differing from the former in its rather leafy-branched, many-flowered stem, and from the latter in its coloured calyx, and from both in its leaves being pubescent on their under surface. Fig. 35. 1. A sepal with petals attached. 2. Sepals &c. removed to show the pistils with a stamen and petal.

“*HELLEBORUS VIRIDIS*; Green Hellebore roots are often mixed with those of the Black Hellebore on the Continent, and are said to be efficient substitutes. *H. FÆTIDUS*, or Bearsfoot Hellebore, has its leaves still officinal in the United States. They are acrid, emetic, and cathartic, and were formerly employed as Anthelmintics. The roots of *Actæa spicata* are sometimes intermixed with Hellebore, and are figured with the above by Goebel and Kunze.

“*Action. Uses.* The fresh root of Hellebore applied to the skin, induces inflammation, and vesication. Given internally, it acts as an irritant to the intestinal

Fig. 35.



canal, producing vomiting and purging, and in some cases inflammation of the rectum. Purgative emmenagogue.

"*D. Hellebore* is sometimes prescribed in fresh-made powder, in doses of from grs. x to ℥j, as a drastic purgative, but in gr. iij to viij for milder effects. Of the Infusion (℥ij to Aq. ferv. Oj) f℥j every four hours. An Alcoholic extract is an efficacious preparation.

"*TINCTURA HELLEBORI* (NIGRI, D.) L. (U. S.) *Prep.* Macerate Bruised *Hellebore* ℥v (℥iv D. U. S.) in *Proof Spirit* Oij for fourteen (7, D.) days and strain. *D.* f℥ss to f℥j as an adjunct to draughts.

"[*EXTRACTUM HELLEBORI*, U. S. Extract of Black Hellebore. *Prep.* Take *Hellebore* in coarse powder lbj; *Diluted Alcohol* Oiv. Moisten with half a pint of the Diluted Alcohol, and allow to stand for twenty-four hours, then displace in a percolator with the remainder of the Alcohol, and displace the last quantity with water. Distil off the Alcohol, and evaporate to the proper consistence. This is better than an extract by decoction, as the vol. oil is retained. *D.* gr. v to xx." pp. 239—241.

"*CANNABIS SATIVA* and its variety *C. indica*. The Leaves and Resin of Hemp.—The Hemp appears to be a plant of the Persian region, where it is subjected to great cold in winter, and to considerable heat in summer. It has thus been able to travel on one hand into Europe, and on the other into India; so that the varieties produced by climate have by some been thought to be distinct species, the European being called *C. sativa*, and the Indian *C. indica*. The name *καναβις*, by which it was known to the Greeks, seems to be derived from the Arabic *kinnub*, the *canape*, of the middle ages, Dutch *kinnup* and *hinnup*, German *hanf*, whence the English *hemp*. Herodotus mentions it as Scythian. Bieberstein met with it in Tauria and the Caucasian region. It is well known in Bokhara, Persia, and abundant in the Himalayas. It seems to have been employed as an intoxicating substance in Asia and Egypt from very early times, and even in medicine in Europe in former times, as we find it noticed in Dale (*Pharmacologia*, i. 133) and Murray (*Apparat. Medicaminum*, iv. pp. 608—620), where it is arranged, as in this work, next to the Humulus. It has of late years been brought into European notice by Dr. O'Shaughnessy.

"The Hemp is diœcious (occasionally monœcious) annual, from three to ten feet high, according to soil and climate. Root white, fusiform, furnished with fibres. The stem erect; when crowded, simple; but when growing apart, branched even from the bottom, angular, and, like the whole plant, covered with fine but rough pubescence. The leaves are opposite or alternate, on long petioles, scabrous, digitate, composed of from five to seven narrow, lanceolate, sharply serrated leaflets, of which the lower are the smallest, all tapering at the apex into a long entire point. Stipules subulate. *Males* on a separate plan. Flowers, in drooping, axillary, or racemose panicles, with subulate bracts. Perianth five-parted; segments not quite equal, downy. Stamens five; filaments short; anthers large, pendulous, two-celled; cells united by their backs, opening by a longitudinal slit. *Females* in a crowded spike-like raceme, with leafy bracts. The perianth consists of a single, small spathe like sepal, which is persistent, acuminate, ventricose at the base, embraces the ovary, and is covered with short brownish glands. Ovary subglobular, one-celled, with one pendulous ovule. Style short. Stigmas, two, elongated, glandular. Nut ovate, grayish-coloured, smooth, covered by the calycine sepal, bivalved but not dehiscing, and inclosing a single oily seed. Seed pendulous. Testa thin, membranous, marked at the apex with a coloured hilum. Embryo without albumen, doubled upon itself. Radicle elongated, turned towards the hilum, and the apex of the nut separated from the incumbent plano-convex cotyledons (by a small quantity of albumen. *Lindley*).

"The Indian plant has by some been thought to be a species distinct from the European one; but, like Dr. Roxburgh and others, the author was unable when in India to observe any difference between the plant of the plains and that of the hills of India, nor between these and the European plant. The Indian secretes a much larger proportion of resin than is observable in the European plant, but a difference is observed in this point in India between plants grown in the plains, and those of the mountains, and also when grown thickly together. The natives

plant them wide apart, to enable them to secrete their full powers. In Europe, the thick sowing, and moister, often dull, climate will prevent the due secretion of the peculiar principles of a plant of the Persian region. But the plants grown in the past season, from the great heat and light, ought to be more resinous than usual. It is not without interest to observe that both the Hop and Hemp, belonging to the group *Cannabineæ*, owe their properties to glandular resinous secretions. The author, in calling attention to the uses of this plant, in his *Illust. of Himalayan Botany*, stated that "the leaves are sometimes smoked in India, and occasionally added to tobacco, but are chiefly employed for making *bhāng* and *subjee*, of which the intoxicating powers are so well known. But a peculiar substance is yielded by the plants on the hills, in the form of a glandular secretion, which is collected by the natives pressing the upper part of the young plant between the palms of their hands, and then scraping off the secretion which adheres. This is well known in India by the name of *churrus*, and is considered more intoxicating than any other preparation of the plant; which is so highly esteemed by many Asiatics, and serves them both for wine and opium: it has in consequence a variety of names applied to it in Arabic, some of which were translated to me as "grass of faqueers," "leaf of delusion," "increaser of pleasure," "exciter of desire," "cement of friendship," &c. Linnæus was well acquainted with its "*vis narcotica*, *phantastica*, *dementens*" (*anodyna et repellens*). It is as likely as any other to have been the *Nepenthes* of Homer. (*l. c. p. 334.*)*

"Dr. O'Shaughnessy has described in detail the different preparations, as—

- "1. *Churrus*, the concreted resinous exudation from the leaves, slender stems, and flowers. This is collected in various ways; that of the Himalayas is much esteemed, that of Herat and of Yarkund still more so. For a specimen of the last the author is indebted to Dr. Falconer.
- "2. *Ganjah*. Dr. O'S. describes it to be the dried hemp plant which has flowered, and from which the resin has not been removed. The bundles are about two feet long, and contain twenty-four plants. In N. W. India the name *Ganjah* is applied to the whole growing plant.
- "3. *Bāng*, *Subjee*, or *Sidhee*, is formed of the larger leaves and capsules without the stalks.

"The leaves of common Hemp have been analyzed, but the analysis requires to be repeated and carefully compared with that of the Indian plant. The properties seem to depend on a Volatile Oil, which is as yet but little known, and upon the Resin. This is very soluble in Alcohol and Ether, as well as in the fixed and Volatile Oils, partially soluble in alkaline, insoluble in acid solutions: when pure, of a blackish-gray colour. (The Yarkund specimen is of a dark blackish-green, another kind is of a dirty olive.) Its odour is fragrant and narcotic; taste slightly warm, bitterish, and acrid. The *Ganjah*, which is sold for smoking chiefly, yields to Alcohol 20 per cent. of resinous extract, composed of *churrus* and Chlorophylle. Dr. Farre found that already a substitute (*Apocynum cannabinum*, called Indian Hemp in America) is sold for this, though having no resemblance to it, and possessing only emetic and cathartic properties.

"*Action. Uses.* All these preparations are capable of producing intoxication, whether the *churrus* be taken in the form of a pill, or with conserve, or the dried leaf be rubbed up in milk and water with a little sugar and spice, or smoked. As a medicine, it was tried by Dr. O'S. in Rheumatism, Hydrophobia, Cholera, and Tetanus. In the last such marked benefit and cures were produced, that the Hemp was pronounced an Anticonvulsive remedy of the greatest value. Its general effects are, alleviation of pain (generally), remarkable increase of appetite, unequivocal Aphrodisia, and great mental cheerfulness. Its more violent effects were, delirium of a peculiar kind, and a cataleptic state. Dr. Pereira was among the first to submit it to experiment, but failed in obtaining any results, probably from changes having taken place in the drug. Dr. Laurie pronounced it uncertain, and not to be trusted to as a narcotic. Mr. Ley, however, found it useful in relax-

* Dr. O'S. states that "no information as to the medicinal effects of Hemp exists in the standard writers on *Materia Medica* to which we have access." It is only in the later writers that it is omitted. Linnæus was acquainted with them, as the author quoted in the above briefly, as being a botanical work.

ing spasm, producing sleep, and during its action abatement of pain. Mr. Donovan found its power great in temporarily destroying sensation, and subduing the most intense neuralgic pain. Professor Miller of Edinburgh considers its virtue to consist in a power of controlling inordinate muscular spasm. Dr. Clendinning says that in his hands its exhibition has been followed by manifest effects as a soporific or hypnotic in conciliating sleep, as an anodyne in lulling irritation, as an antispasmodic in checking cough and cramp, and as a nervous stimulant in removing languor and anxiety. The Hemp may be used in the following preparations and doses; but Dr. O'S., when in England, found that he was obliged to give as much as 10 or 12 grs. and even more; though in India he considered gr. $\frac{1}{2}$ a sufficient; and $1\frac{1}{2}$ gr. of the Extract a large dose.

“EXTRACTUM CANNABIS. Resinous extract of Indian Hemp. *Prep.* Boil the rich adhesive tops of the dried *Gunjah* in *Rectified Spirit* until all the Resin is dissolved out. Distil off the Spirit with a gentle heat.

“D. This extract is effectual in gr. ss. and gr. j doses; but 10 and 20 grs. have been given in Hydrophobia and Tetanus.”—Pp. 550—553.

The following observations on the geography of plants, as connected with their physical properties, are of interest:—

“Finding that the growth of plants and the nature of their secretions are so much affected by the different physical agents, we may conclude that there are particular sets of plants fitted by nature for the particular circumstances in which they are placed. The Tropical Zone is characterized by brightness of light, great heat, and moisture. These are all favourable to the development of plants, which are accordingly characterized by vastness, the foliage by richness, and the inflorescence by brilliancy of colouring. From these regions, moreover, the rest of the world is supplied with aromatics and spices. Tropical climate is not terminated by an abrupt line; but, according to the influence of local causes, is extended into higher latitudes, carrying with it the peculiarities of tropical vegetation. So also in ascending mountains, the diminution of temperature being gradual, so is the disappearance of the vegetable forms growing at their base; and we find plants diminishing in number and in size as we ascend lofty mountains. Luxuriant vegetation, however, is not confined to tropical countries; for temperate climates can equally boast of beauty and variety of scenery; where the Pine tribe are conspicuous, Oaks, with other catkin-bearing trees, form valuable timber-trees, and the small Labiatae, the aromatics of northern regions. Between these extremes, there are many gradations of temperature, of moisture, and of dryness, all of which influence the nature of the vegetation and the secretions of plants; as, for instance, the tract of country which is beyond the reach of tropical influence, and yet not so cool or so moist as European regions, but where the atmosphere is clear and dry, the temperature hot, and the soil apparently barren. All this being favourable to the due secretion of vegetable products, we obtain from Persia, Arabia, and parts of Africa, many most important drugs. Therefore, in visiting or sojourning in different countries, when acquainted with the principles of geographical distribution, we know what groups of plants to expect, and what we may hope successfully to cultivate; so also in cultivating or collecting medicinal plants in our own country, we shall be better able to weigh the influences of soil and of aspect.”—P. 234. R. E. G.

ART. XVI.—*The Pathological Anatomy of the Human Body.* By JULIUS VOGEL, M. D., Professor of Clinical Medicine at the University of Giessen. Translated from the German, with additions, by GEORGE E. DAY, M. A. and L. M. Cantab., &c. &c. Illustrated by upwards of one hundred plain and coloured engravings. 8vo. pp. 534. Philadelphia, Lea and Blanchard, 1847.

THE Pathological Anatomy of Dr. Vogel will form a valuable addition to the library of the student and physician. A treatise on general morbid anatomy, embracing the recent discoveries effected by chemistry and the microscope, has been a desideratum which the present volume is well calculated to supply. It treats

of the morbid changes of a more general nature, which may occur in the different tissues and organs in the same, or in a very similar manner, with a notice of their general relations, causes, and consequences, so far as they are at present known. It commences with a consideration of abnormal collections of fluids in the body, whether gaseous (pneumatoses), or aqueous (dropsies). The latter being divided into serous, fibrinous, and false. Then follows the subject of pathological epigenesis, or morbid new formations, with a brief sketch of the changes which the tissues undergo in their physical properties, together with some remarks on the manner in which morbid changes in the elementary tissues are connected with each other. The next chapter treats of the independent organisms which occur in the human body, as causes or consequences of morbid changes (parasites). Then follows a chapter devoted to congenital pathological changes (malformations), and the volume concludes with a notice of the changes occurring in the body after death.

We are promised a second volume devoted to the consideration of the pathological changes affecting special organs.

The author has with great industry collected the various facts and doctrines in relation to the several subjects embraced in the present treatise that have been established by the observations of modern pathologists, or which are deserving of notice from the high character of those by whom they have been advanced. These he has arranged with much judgment, and while he has presented of them a concise but clear and candid exposition, he has been careful to give to each that degree of weight which according to his own observations and conclusions it justly merits.

We know of no work from the study of which a more accurate acquaintance may be obtained of the facts in relation to the various important particulars embraced by the subject of general morbid pathology, or a more satisfactory digest of the opinions entertained in respect to each by the modern authorities of continental Europe.

The additions made to the treatise by the editor, are, as he himself admits, trivial and unimportant, with the exception of the plates and their explanations. These are almost entirely selected from Dr. Vögel's "*Icones Histologiæ Pathologiæ*."

The first of these plates contains illustrations of the different forms of cells occurring in the development of morbid epigenesis. The second, inflammation, fibrinous exudation and their development. The third, pus and granular cells; the fourth, epigenesis of areolar tissue and organic muscular fibre; the fifth, epigenesis of blood; bones, nerves, and serous membranes; the sixth, of tubercles, encephaloid, and typhous matter; the seventh, of fatty and fibrous tumours; the eighth, of carcinoma, scirrhous, and colloid tumours; the ninth, of encysted tumours, and melanosis; and the tenth, of concrements, epiphyta, and epizoa.

Most of the objects figured convey a very tolerable idea of the subjects they are intended to illustrate, and cannot fail to increase the interest and value of the work to the student of pathological anatomy.

D. F. C.

ART. XVII.—*Summary of the Transactions of the College of Physicians of Philadelphia.*
From September to November, 1846, inclusive, pp. 57, 8vo.

THIS part of the Transactions of the College is an unusually rich one, comprising, in addition to some interesting discussions on practical subjects, three valuable reports, viz., the Annual Report on the Theory and Practice of Medicine, by Dr. S. Jackson;—a Report on the Protective Powers of Vaccination, by a committee of the college consisting of Dr. D. F. Condie, T. T. Hewson, and J. Wilson Moore, and one on the Varioloid Epidemic, also by a committee of the college, consisting of Drs. I. Parrish, H. Bond, and J. R. Paul.

The report of Dr. Jackson is principally devoted to a criticism on the review of Homœopathy, published in the *British and Foreign Medical Review*; an article, which, as well as that on hydropathy in the same journal, both attributed to the distinguished Editor, it must be admitted has given much offence to the profession.

In April, 1842, the college appointed a committee to investigate the protective powers of vaccination; the phenomena resulting when those who have been al-

ready vaccinated, are again subjected to the disease; and the subject of re-vaccination generally. The questions to which the attention of the committee was directed are so important, the committee have devoted so much time to their investigation, and seem to have so thoroughly, and cautiously examined them, and have presented the results at which they have arrived so candidly, that we shall give their report nearly in full.

"The first object, embraced in the resolution, under which the committee was appointed, is one of acknowledged interest; it refers to the protective powers of vaccination.

"The most obvious and conclusive mode of determining the degree of protection imparted by vaccination against the influence of small-pox, is to inoculate, with variolous matter, the persons who have been previously vaccinated.

"At the close of 1801, the first successful efforts were made at vaccination in this city. In the early periods of this practice, until the year 1812, every means was employed, which, at the time, was deemed best calculated to determine whether the process of vaccination would afford full protection against the small-pox. The first step generally taken, after having observed the genuine character of the vaccine pock, was to insert a portion of variolous matter, and to note its progress. Where due attention had been paid to the selection and insertion of this matter, a small red pimple appeared about the third day. On the fifth day this was converted into a purulent crust, surrounded by inflammation, generally of no great extent, which, after this period, began to fade, and was rarely perceptible beyond the eighth day; it left no trace beyond the tenth. The full and distinctive character of the variolous pock was not observed on these occasions. The persons thus treated were not affected with fever, or any general derangement of the system, nor was any eruption observed on the skin. The persons having been submitted to this test, were next exposed to the small-pox in the most direct manner, often by placing them in the beds with those labouring under the disease, even in its most virulent form. A like immunity attended this experiment.

"From repeated observations thus conducted, observing that no instance of small-pox had been communicated to those on whom the operation of vaccination had been duly performed, the profession ventured, in 1803, to announce the process as one affording equal protection with variolous inoculation.

"The reasons for preferring the process of vaccination to that of variolous inoculation could not fail to be appreciated, and were strongly urged in the circulars issued for the public information.

"Under the most favourable circumstances, and where every attention had been paid to insure success, many of those who had been inoculated for the small-pox were known to have fallen victims to the disease. The estimate most generally received, and founded on a large experience was, that one in four hundred of the inoculated fell victims to the process; some practitioners were stated to have been more fortunate, and to have lost not more than one in a thousand. On the other hand, of the thousands that had been vaccinated not a death had been recorded, which could be imputed to this process. The age of the individual, or the physical condition of the other members of the family, constituted no objection to the operation, as the cow-pock could be communicated by the direct application of the virus only; while in the instance of the small-pox, the effluvia emanating from the infected, were known to impart the disease to the unprotected, and under circumstances when it was likely to prove fatal. In addition to the loss of life, caused by the small-pox, even when the result of inoculation, the mutilations which were so often consequent, even when life was preserved, must have been familiar to every one acquainted with the disease, whether casually received or by inoculation.

"Unfortunately, the reputation of the Jennerian process has been materially affected by the ignorance of the persons by whom the operation has been frequently undertaken, and by the want of attention on the part of some of the profession in visiting at the proper periods, and recording the phenomena observed. The period when the areola may be expected, ought never to be neglected.—The evidence that may be obtained from such circumstantial records, will tend to dispel many of the idle reports so freely circulated to the disparagement of vaccination. By consulting such recorded documents, it has been clearly ascertained that the majority of the cases of small-pox ascribed to the failure of the protective

process were, in reality, owing to the imperfect manner in which the operation had been conducted. There is abundant evidence recorded in medical books, of persons having suffered from small-pox more than once; where such a peculiarity of constitution exists, it cannot be a matter of surprise that the disease should be occasionally observed after vaccination, even in cases where the genuine and perfect character of the vaccine process has been fully developed. A careful examination of these histories does not exhibit any appreciable difference in the proportional number of such cases, whether after small-pox or after vaccination.

"By an act of the legislature, passed in 1811, to communicate the infection of small-pox by inoculation, or otherwise, has been prohibited, under certain pecuniary penalties. For the four succeeding years, the disease is not recorded in the bills of mortality; and the mode of most conclusively testing the protective powers of vaccination necessarily ceased. And hence the profession have, since then, been deprived of a measure so intimately connected with the inquiries to which the attention of your committee has been directed.

Touching this very important question, it must be acknowledged that the documents at command are but few; nevertheless those that have been preserved, afford the evidence that, after the lapse of three years, the vaccinated were found no longer susceptible of small-pox by inoculation. Among the persons thus treated, it has been ascertained that an infant, vaccinated within the month, resisted the variolous infection after an interval of the same number of years.

"For the want of that full and comprehensive information which our more immediate resources fail to afford, it may prove acceptable if we here present the experiments made by that distinguished and accurate observer, Biot:

"In August, 1826, a number of boys, between the ages of twelve and sixteen years, were inoculated in four places with small-pox virus by Dr. Biot, one of the physicians to the Hospital St. Louis, at Paris. A part of these had been vaccinated, and part had never been protected from the small-pox. In those who had been vaccinated, the insertion of the variolous virus had no other effect than to produce a slight inflammation for two or three days at the points where the matter was introduced. Those who had never been protected were affected differently, and contracted the variolous disease."

"In this stage of the inquiry, it appears not irrelevant to notice the diminished mortality from small-pox, as observed in this city, since the introduction of vaccination. Wherever that disease has appeared, it has been viewed as among the severest scourges inflicted on mankind, and the most appalling apprehensions have been entertained by every community which it has visited. The sufferings of those affected with this malady have at all times awakened the most painful and anxious feelings in the friends and connections, and called forth the assiduous and unremitting care of the attendants and those administering to the sick. In seasons of epidemic small-pox, the mortality has been observed to be great. In 1721-22, in the town of Boston, five thousand seven hundred and fifty-nine persons were affected with the disease, of whom eight hundred and forty-four came to an untimely death, as publicly announced by the municipal authority of that city. This was a fearful mortality, particularly when we advert to the number of persons inhabiting Boston at that period. In the succeeding year, 1722, the census was taken, indicating a population of ten thousand five hundred and sixty-seven; if, to this, there be added the number who died of small-pox, eight hundred and forty-four, the sum will be eleven thousand four hundred and eleven, as the total population previous to the ravages of the small-pox having commenced. One half of the inhabitants of the city were affected with the disease. Of those, between one-sixth and one-seventh came to an untimely death, and the city lost nearly one-thirteenth of its population."—*Zabdiel Boylston on Small-pox*, p. 33.

"Of those who survived the loathsome disease, many, from the hideous aspect and mutilations caused by the disease, continued through life, the objects of commiseration, and too often of disgust.

"Laws have been enacted, and rigid quarantines enforced, with the view of preventing the introduction and spreading of the small-pox. In small communities, having little intercourse with other portions of the world, these efforts have proved successful for a season; but the temporary immunity thus enjoyed has only rendered the subsequent ravages of the disease the more disastrous. The

nations engaged in commerce soon experienced the futility of every attempt to insure exemption from the disease; for though the infected were secluded, and denied all intercourse with those deemed liable to the disease, the poison was found to be frequently conveyed by means of the clothing, and articles taken from the chamber of the sick. For successive ages, the pestilence was submitted to as an inevitable evil, and allowed to extend its baneful influence, annually destroying large portions of the inhabitants of the earth, and in some instances depopulating whole districts.

"The deaths from casual small-pox have varied, from circumstances not in our power to appreciate. The character of the seasons, the peculiarity of position, and the nature of the intercourse between the infected and those liable to take the disease, have had their influence in determining the malignity and mortality observable in different years.

"The materials having relation to the medical statistics of Philadelphia, that can be gleaned from its early history, are extremely scanty and defective. It is only within the present century, and for the period of barely forty years, that any reports of the deaths have been publicly made. Prior to this period the records of the interments were confined to particular religious societies, necessarily difficult of access, and, generally, ill adapted to the present purpose. Though restricted to a narrow sphere, and not embracing the entire population comprehended within the city and districts, the registers kept at the Dispensary, afford a document which may constitute a proper basis to found the estimate of the advantages gained by vaccination. From the foundation of the institution to the close of 1801, including a period of sixteen years, when variolous inoculation was considered as the only protective process available against casual small-pox, fifty-one persons are stated to have died of this disease, while the entire number of deaths, from various diseases, were seven hundred and one, establishing the proportion to be seventy-three in one thousand, which accords with the most favourable estimates made in Europe, and will hardly be excepted against by those who are the least favourable to vaccination.

"In 1807, by an act of the Legislature of the State, every death within the city and districts, must be reported to the Board of Health, the certificate expressing the disease of which the person has died. From this source, clear and positive evidence may be obtained. From the annual reports during the period of four years, variolous inoculation still being permitted, it appears that the deaths from various diseases amounted to ten thousand seven hundred and forty-four, of which number, four hundred and twenty-nine were from small-pox. This affords the evidence of a considerable reduction in the proportional mortality from this disease, it being as forty in the thousand; during a period when vaccination had been practised and institutions established for its dissemination.

"Since 1811, variolous inoculation has been prohibited by law. During the four succeeding years, not a death from small-pox was recorded. In 1816, there was a great influx of foreigners, particularly from the British dominions in Europe; by these persons the disease was introduced into this city, and proved fatal in that year to no less than ninety-seven persons. It was accompanied with a papular eruption, resembling, in many particulars, mild variola—affecting some of those who were believed to have been protected from small-pox by having previously undergone what was supposed to be successful vaccination; of these, no death is recorded that has come to our knowledge. In 1820, 21, 22, the city again enjoyed an exemption from this malady. This assertion is founded on the fact of no deaths from small-pox, in these years, having been reported by the Board of Health. In 1823, '24, the pestilence again afflicted our city, and the mortality from this source amounted to four hundred and eighty-four.* The fact that a large number of those who had been previously vaccinated with the greatest care, as well as many of those who had previously passed through small-pox by inoculation or otherwise, were attacked during this epidemic with a modified form of small-pox, created considerable alarm in the public mind, and directed anew the attention of the profession to an investigation of the amount of protection

* For an account of the epidemic of 1823, '24, we refer to a very able paper by Drs Mitchell and Bell, in the *North American Med. and Surg. Journ.*, vol. ii. p. 27 et seq.

afforded by the vaccine disease. Upon the recurrence of small-pox in 1827, the Medical Society of Philadelphia appointed a committee to collect and report to the society all the facts within their reach, in relation to this important subject. The committee immediately addressed a circular to the physicians of the city and county, containing a series of interrogatories calculated to elicit information in relation to the protective powers of vaccination. The report of this committee, embracing the facts collected by them, was made to the society in 1828, and was of such a character as to renew the confidence of the profession in the protective powers of the vaccine infection.* Notwithstanding, it was admitted that in many instances, those who had been previously vaccinated would be liable to become affected, during the prevalence of variola, with a modified, and, usually, mild form of small-pox, yet it was shown that the public are highly benefited by the practice of vaccination, which was, in every sense, to be preferred to inoculation, and hence, that humanity and sound policy imperiously demanded its continuance.

"In succeeding years, with occasional mitigations, Philadelphia has suffered more or less from the disease. Taking the whole period since variolous inoculation was prohibited, the mortality from all sources has amounted to one hundred and forty-three thousand and seventeen,—of this number, two thousand four hundred and ninety-seven are referred to small-pox; by which, it will be perceived that the proportional mortality has been reduced to eighteen in the thousand.

"We have thus endeavoured to exhibit the degree of protection against small-pox afforded by the process of vaccination. The evidence adduced does not depend on individual experience, but rests on the broad basis of the public records, into which no undue bias can have entered.

"It must be conceded, that the anticipations of the warm friends for vaccination, that this process would lead to the extirpation of the small-pox, have not been accomplished. In making this concession, the question necessarily arises, whether the requisite precautions for preventing the intercourse of those affected with small-pox, and those still susceptible of the disease have been duly enforced. The remarks of one who took a lively interest in arresting the progress of this loathsome malady, appear to be particularly pertinent, and to deserve the earnest consideration of every individual desirous of removing from the community this dreadful scourge. The words of Dr. Haygarth are, 'the discovery of vaccine inoculation by Dr. Jenner is the most fortunate and beneficent improvement that medical science ever accomplished. It does not, however, preclude the necessity of investigating the nature of the variolous poison, and of considering by what regulations its propagation may be prevented. In order to secure the unthinking multitude from this destructive pestilence, measures to prevent the casual *small-pox* should everywhere accompany vaccine inoculation; without such protecting care by the wise and humane part of society, this mortal malady would, for ages, lurk unheard of and unsuspected, to the annual destruction of many thousands. No town, no village, not even a single solitary house would enjoy perfect safety from danger."

"The foregoing, your committee beg leave to present, as a solution of the first question submitted to them by the College.

"The occurrence, year after year, of the small-pox in the city of Philadelphia, and in other communities, and the frequency with which those who had been vaccinated were attacked with a more or less severe, though generally modified form of the disease, induced many to suppose that the protective power of the vaccine infection was only temporary. The question as to the necessity of re-vaccination now arose, but whilst few practised it, many condemned it as useless, and calculated to weaken public confidence in the protective powers of vaccination. Others, however, maintained that, as there was no certain criterion by which the protective powers of the primary infection could be established with absolute certainty, re-vaccination was necessary in all cases in order to test the efficacy of the first operation. This opinion very naturally obtained importance from the fact, that few cases of modified small-pox were known to have occurred after a second vaccination, provided the insertion of the vaccine virus produced an action suffi-

* For a copy of this report, see *North American Med. and Surg. Journ.*, vol. v. p. 400.

cient to prove that it had been taken up by the absorbents; also, from the disease being observed, in numerous instances, to be arrested in families, and in neighbourhoods, where those already reputed to be vaccinated were again subjected to the operation.

"When vaccination has been repeated in those who have been previously subjected to the disease, it is found to produce a local affection, marked by very different degrees of intensity. In some, slight inflammation occurs on the second or third day, and then fades away. In others, various degrees of inflammation manifest themselves, followed by a pock or pustule, terminating in a brown or yellow crust, whilst, very rarely, a distinct, regular areola is produced, or the other phenomena of the genuine disease, as will fully appear from the table here annexed.

"The subject of repeated vaccination has engaged a large field of inquiry in different parts of Europe; a very full abstract of the results of which, will be found in the work of Dr. Condie on the Diseases of Children, page 458.

"The second question, therefore, submitted to your committee, was to determine the phenomena resulting when those who have been already vaccinated are again subjected to the disease, and the necessity and policy of re-vaccination. It is to the first portion of this question that the committee have been obliged, necessarily to confine their attention. It must be very evident that to test fully the necessity or propriety of re-vaccination, would either require that after large communities shall have been a second time subjected to vaccination, time be allowed in order that they may be repeatedly subjected to the influence of variolous contagion, during the epidemical visitations of small-pox, or that the direct test be resorted to of inoculating with small-pox those who have been successfully vaccinated, at different periods subsequent to the primary operation, as well as after a secondary operation, and carefully noting the comparative immunity from the impression of the variolous poison exhibited by each class of patients.

"In order to obtain as wide a field of observation as was in the power of your committee they applied to the comptrollers of the public schools, soon after their appointment, for the privilege of vaccinating the scholars whose parents would consent to the operation being performed; whether they had been previously vaccinated or not: in order to ascertain the degree of impression that would be made in each case by a repetition of the operation and with a view of watching hereafter the effect or influence it may have in preventing the occurrence of small-pox in the subjects of our experiments, should an epidemic of that disease again appear amongst us. But the comptrollers did not at that time consent to our request, and the investigation of the subject had to be postponed. In the early part of the present year, small-pox again made its appearance and excited considerable uneasiness in the minds of the public. Your committee, entertaining the opinion that the period was propitious for a renewal of their application to the comptrollers, accordingly did so, and their consent was promptly given. Circulars were then sent to the parents of the children, attending several of the schools, requesting their permission, which was in most cases readily granted, and every facility was offered to carry into effect the object your committee had in view.

"The operation was performed in nine hundred and thirty-one cases; six hundred and thirty-five of whom took on various grades of action; many of these had been vaccinated three, four, and five times before, and stood in relation to small-pox, chicken-pox, and varioloid as stated in the following account:—

"Nine hundred and thirty-five persons reputed to have been protected by previous vaccination, having distinct cicatrices on the arm, or by having passed through the small-pox, were subjected to the action of the vaccine virus.

50 did not appear on the days appointed for examination.

294 exhibited no signs of inflammation from the process.

52 of these were reputed to have been previously vaccinated twice.

6	"	"	"	three times.
1	"	"	"	four times.
14	"	to have had the small-pox.		
36	"	"	varioloid.	
72	"	"	chicken-pox.	

76 had various degrees of inflammation on the fourth day, which had faded before the eighth day.

15 of these were reported to have been previously vaccinated twice.

2 " " to have had the small-pox.

2 " " " varioloid.

26 " " " chicken-pox.

181 had inflammation more or less severe, accompanied by a yellow or purulent crust, on the eighth day.

30 of these were reported to have been previously vaccinated twice.

11 " " " three times.

2 " " " four times.

1 " " " seven times.

9 " to have had the small-pox.

7 " " " varioloid.

50 " " " chicken-pox.

95 had very diffusive inflammation, the pustule still moist on the eighth day.

10 of these were reported to have been previously vaccinated twice.

1 " " " three times.

1 " " " four times.

2 " to have had the small-pox.

4 " " " varioloid.

23 " " " chicken-pox.

179 exhibited more or less inflammation and a brown crust on the eighth day.

10 of these were reported to have been previously vaccinated twice.

4 " " " three times.

1 " " " seven times.

8 " to have had the small-pox.

7 " " " varioloid.

49 " " " chicken-pox.

57 had a pock with various degrees of inflammation; diffused and irregular in its margin on the 8th day.

2 of these were reported to have had the small-pox.

15 " " " chicken-pox.

3, viz., a boy and two girls, exhibited a well-defined pock and the areola characteristic of the perfect vaccine impression as observed on the eighth day.

They are stated not to have been affected with the small-pox, varioloid, or chicken-pox.

"From the foregoing observations, as well as from those derived from previous practice, your committee are justified in the conclusion, 1st, That vaccination is the best preservative of human life now known against the contagion of small-pox; and although it has not answered the full expectations of its more sanguine advocates by protecting the system in all instances against at least a modified form of variola, which is the case with small-pox itself, nevertheless, life is very generally protected by it, and humanity and sound practice imperiously call for its continuance.

"2dly. Patients who have been once fully subjected to the influence of the vaccine infection, lose, in a great degree, their susceptibility to a second infection; the susceptibility diminishing still more at every subsequent vaccination.

"3dly. That portion of the community who have been once successfully vaccinated are in the great majority of cases fully protected from small-pox or varioloid.

"4thly. A second vaccination does not insure the system in every instance against an attack of varioloid; neither does second vaccination prevent an impression being made on the system by a subsequent operation.

"5thly. Upon the occurrence of small-pox in a family or neighbourhood, it is all important that all individuals in regard to whom there is any doubt or uncertainty as to the fact of their having been successfully vaccinated, should be subjected immediately to the operation, this being the most certain means of preventing the spread of the variolous contagion.

"Your committee have not heard of a single instance of varioloid having

occurred in any of the children of the public schools vaccinated by them, notwithstanding the epidemic was prevailing at the time and subsequently."

Accompanying this report there was presented a table containing the name and age of each individual re-vaccinated by the committee, the number of times each had been previously vaccinated; noting those who had been affected with small-pox, varioloid, or chicken-pox; and the appearance of the arm on the fourth and eighth and twelfth days, with remarks on the result of each case.

The committee on the Varioloid Epidemic was appointed in January, 1846, to collect facts in relation to the progress of the varioloid epidemic, the protective powers of vaccination, and collateral subjects, and to act in conjunction with the committee on re-vaccination, &c. The committee under this very comprehensive resolution, soon after their appointment addressed a circular to the physicians of the city and county of Philadelphia, requesting information upon the following points:—

"1st. As to the number of cases of varioloid or modified small-pox which had fallen under their notice.

"2d. The proportion of those which had been vaccinated, inoculated, or had had small-pox in the natural way.

"3d. The number of deaths from varioloid.

"4th. The effects of vaccination upon the system.

"5th. As to the efficacy of re-vaccination in preventing the spread of varioloid, and the number of cases following re-vaccination.

"6th. As to the protective powers of primary vaccination, when performed at a very early age."

To these the committee have received replies from 51 physicians, with reports of 776 cases.

"Upon those questions which do not involve a difference of opinion," say the committee, "the replies have been definite and satisfactory; but in answer to the fourth, fifth, and sixth queries, there is a degree of discrepancy, which has been somewhat embarrassing to your committee. In regard to the effects of re-vaccination especially, there appears to be a want of uniformity in the observations of careful and conscientious men, which would be unaccountable, did we not constantly observe similar discrepancies in other kinds of evidence."

The committee present a summary of the replies they have received, and from which it would appear they observe:—

"1st. That children or persons, under the age of puberty, rarely take the re-vaccination, if the previous vaccination has been perfect. All the cases reported, furnishing but one unequivocal case of successful re-vaccination, and that in a constitution peculiarly susceptible.

"2d. That though there is a great disparity in some of the reports, yet the large proportion of the respondents agree in the opinion, that vaccination in an adult, once protected by previous vaccination, inoculation, or an attack of small-pox, will, in some instances, pursue the course, and present the characteristic appearances of the genuine disease. The proportion of cases in which this result will take place, cannot be definitely arrived at, from the materials before us.

"3d. It is evident, from the tenor of some of the replies, that those physicians who have reported the highest rates of successful cases, have fixed in their minds a standard of what constitutes a perfect pock, much lower than that which is held by the great mass of the medical profession; and, on the other hand, that those gentlemen who, in a large number of re-vaccinated cases, have seen no case which they would deem perfect, have an estimate of the perfect pock which the public sentiment of the profession, judging from the replies now before us, and from the published reports on the same subject from Europe, would not sustain."

The committee have, however, very judiciously "not deemed it advisable to draw any conclusions from the materials before them," perhaps influenced by the aphorism, "*Non numerandæ solum, sed etiam perpendendæ sunt observationes,*" and not being willing, we suppose, to undertake so invidious a task.

ART. XVIII.—*The Principles and Practice of Ophthalmic Medicine and Surgery.*—By T. WHARTON JONES, F. R. S., Lecturer on Anatomy, Physiology, and Pathology, at the Charing-Cross Hospital, &c. &c. With one hundred and two illustrations. Edited by ISAAC HAYS, M. D., Surgeon to Wills Hospital, etc. Philadelphia: Lea & Blanchard, 1847. 12mo. pp. 509.

THE aim of the author of this volume, has been “to produce a work on the Diseases of the Eye, which should at once serve as a text-book for students, and as a book of reference to practitioners. Accordingly, besides carefully discussing the principles, he has laboured to give such a practical exposition of the subject as will be found available at the bedside of the patient, and in the operating room. At the same time, he has not neglected the opportunity which the subject offers, of illustrating the general doctrines of pathology, especially those of inflammation.” To make up for the necessary imperfection of mere verbal description, numerous well executed illustrations are given.

The praise, and it is no small one, may be awarded to the author, of having accomplished what he proposed. This work, though it cannot supersede the more elaborate treatises of Mr. Lawrence, Dr. Mackenzie, &c., will be valuable to practitioners for reference, and from its more convenient size and smaller cost, be a most useful text-book for students.

The volume is divided into eleven chapters. In the first, the author treats of ophthalmoscopy, or exploration of the eyes, in order to a diagnosis; and of the application of remedies to the eyes or their neighbourhood, and the performance of minor operations on them.

Chapter second is devoted to ophthalmic inflammation, including, 1st, inflammation proper, its termination, varieties, and the mode of action of remedies for it;—2d, inflammation as it occurs in the different tissues of the eye, its causes and treatment;—3d, the ophthalmiæ, viz.: the various forms of conjunctivitis, scleritis, corneitis, of compound external ophthalmia, aquo-capsulitis, iritis, posterior internal ophthalmia, panophthalmitis; and finally the various morbid states of the eye, consequences of the ophthalmiæ.

The third chapter comprises an account of dropsies, tumours, cancer, &c., of the eyeball; of the various forms of cataract, and the operations for its removal; of the various operations for artificial pupil; and of congenital defects of the iris and pupil.

The abnormal states of the optical refractions, and adjustments of the eye; and vision of objects in and on the eye, form the subjects of the fourth chapter.

In the fifth chapter the amaurotic affections are described.

The sixth chapter is appropriated to the consideration of loss of correspondence of the sensations and movements of the two eyes.

In the seventh chapter the author treats of diseases of the eyelids, under which are included inflammation and ulceration of the eyelids, abnormal position of the eyelids, misdirection of the eyelashes, irregularity and loss of movements of the eyelids, morbid connections of the eyelids, and tumours, cancer of the eyelids and eyebrows.

The eighth chapter contains an account of the diseases of the conjunctiva (except inflammation) and of the semilunar fold and lachrymal caruncle.

The diseases of the lachrymal organs and passages are treated of in the ninth chapter.

The tenth chapter comprises descriptions of the diseases of the orbit; and the eleventh chapter is appropriated to the consideration of injuries to the conjunctiva, eyeball, eyebrow, eyelids, lachrymal organs and orbit.

It will thus be perceived that Mr. Jones has gone over the whole ground of ophthalmic medicine and surgery, and that he has furnished an admirable though brief summary of the existing state of our knowledge on the various subjects it embraces.

ART. XIX.—*A Treatise on the Practice of Medicine.* By GEORGE B. WOOD, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania; one of the Physicians of the Pennsylvania Hospital; one of the authors of the Dispensary of the United States of America, etc. etc. In two volumes, 8vo. Vol. i. pp. 798. Philadelphia: Grigg, Elliot & Co. 1847.

WE have been able to give to the treatise of Dr. Wood only a very superficial examination. So far as this has enabled us to judge of the general character of the work, we have formed a very favourable opinion of the manner in which the author has accomplished his task. We must postpone, however, our final judgment until the appearance of the second volume, when we shall have leisure to examine with care the entire work, of which we expect to be able to present in our next number a full review, the result of which we have no doubt will confirm the accuracy of the impression derived from our hasty perusal of the first volume. D. F. C.

ART. XX.—*Handbuch der Allgemeinen und Speciellen Chirurgie.* Von Dr. A. WERNHER, Professor der Chirurgie und Pathologischen Anatomie; Director des Chirurgischen Klinikums an der Universität zu Giessen. Ersten Bandes, erste Abtheilung. Giessen, 1846, 8vo.

A Manual of General and Special Surgery. By A. WERNHER, M. D., Professor of Surgery and Pathological Anatomy—Director of the Surgical Clinic in the University of Giessen, vol. i. part i.

WE have received only the first three numbers of Dr. Wernher's Manual, comprising 568 pages, which, however, do not complete the first volume. When the whole work shall be published it will form three large octavo volumes, of nearly seven hundred pages each. This is certainly a rather unwieldy size for a manual. We shall not, however, quarrel with the author on account of the title he has made choice of for his work; whether it be miscalled or not, it will be found, if we are permitted to judge of the whole from the specimen before us, a very excellent exposition of the present condition of surgery—presenting a full, accurate, and very able digest of the doctrines and practice established by the observations of the most authoritative surgeons of the past and present day. It will constitute, when completed, a valuable and efficient guide to the student, and a useful work of reference to the practitioner.

The portion of the work before us is devoted to a consideration of the subject of inflammation and its results.

In the first section the subject is examined generally. In the second section is presented a separate account of each of the results of inflammation and of its appropriate treatment. In the third section we have an account of ulceration and of the several forms of ulcer, while the fourth section treats of the inflammation in the individual tissues and organs.

All of the subjects embraced in these sections are treated with great ability. The author has confined himself almost entirely to a statement of facts, avoiding altogether those wild hypotheses and dubious explanations which detract so much from the value of many of the German treatises on subjects connected with medicine and surgery. Dr. Wernher exhibits an intimate acquaintance with the writings of those who, by their labours, have improved every department of surgery, and raised it from a mere mechanical art, whose highest aim was to save life by mutilating the body, to the rank of a liberal profession directed to save life while it diminishes the necessity of resorting to painful and dangerous operations. His descriptions of disease are accurately and skillfully drawn, and his plans of treatment simple and judicious.

Under the head of dyscrasic or specific inflammations—those which, according to Dr. W., are produced or kept up by a primary defect in the constitution of the nutritive fluid—are arranged 1st, *catarrhal* inflammation, or that affecting the mucous membrane and its glandular cysts; 2d, *rheumatic* inflammation, or that affecting the cellular tissue, especially that portion constituting the aponeuroses, the

sheaths of the muscles, tendons and nerves—the ligaments, the periosteum, and the serous and synovial capsules, as well as all organs in the composition of which the cellular tissue enters largely; 3d, *arthritic* inflammation, or that resulting from the blood being overloaded with worn-out highly azotized matter, and which, in consequence of the proper organs having become unable to remove it, is deposited in certain parts of the body; which depositions resemble crises; 4th, *scrofulous* inflammation, or that occurring in scrofulous subjects, and 5th, *putrid* and *typhus* inflammation, or that occurring where from any cause, as from the use of putrescent animal food, from miasmata and contagion, from a deficiency of nervous influence, or as a consequence of paralysis or exhaustion, or of excessive irritation of the nervous system, the blood has lost, in a great measure, its power of coagulation.

Although all this may be viewed as purely hypothetical, nevertheless the remarks of the author upon each of the forms of inflammation referred to are particularly judicious, and even if his pathological views shall be objected to, his descriptions, diagnosis, and therapeutical directions, must be acknowledged as correct by every practitioner.

The immediate results of inflammation—the effusion of serum and of plastic lymph, induration, pseudo-membranes, cicatrices, suppuration, abscesses, granulation, and gangrene, are treated of in detail and at great length—and the proper management of each carefully detailed.

Under the head of gangrene, we are presented with a very excellent account of necrosis, decubitus gangrænosus, gangrene of the mouth of children, dry gangrene, gangrene from the use of ergot, hospital gangrene, and the pustula gangrænosa—carbuncle or malignant pustule.

Dr. Wernher remarks, that “under the general name of gangræna senilis, gangrene of the aged, Potts’ gangrene, there have been described different forms of gangrene, which occur usually in the extremities, particularly in the lower ones, and have this in common that they terminate by the parts affected becoming dry, shrunken, and, as it were, mummified. They are all, no doubt, the result of an impediment occurring to the free circulation of the blood through the vessels of the part; this impediment may, however, differ in its character in different cases.

“The attention having been, heretofore, almost exclusively directed to the termination of this species of gangrene in a dry hardening of the parts affected by it, very different forms of disease have been included under one name which in their origin are essentially distinct, and in consequence demand a very different plan of treatment. The term gangræna senilis, gangrene of the aged, which has generally been applied to this species of gangrene, is particularly objectionable, as the gangrene is of proportionably frequent occurrence in young subjects, affecting even the new-born infant. It would be more correct to denominate it by the general name of dry or mummifying gangrene, *gangræna sicca*, distinguishing the different varieties according to their essential causes. The varieties are:—

“1. Mummifying gangrene in new-born children and infants—*gangræna infantilis*.

“2. Gangrene from mechanical closure of the arteries.

“3. Painless gangrene of the aged; Potts’ gangrene, podagric gangrene, *gangræna senilis vera*.

“4. Gangrene after acute arteritis, *gangræna spontanea* of the French writers.”

The pathology of ulceration, generally, and of the several forms of ulcer, with their appropriate management, is very fully considered; two hundred and thirty pages being devoted to this subject. The forms of ulceration described by Dr. Wernher are—1, varicose ulcers; 2, scrofulous ulcers; 3, lupus; 4, scorbutic ulcers; 5, arthritic ulcers; 6, impetiginose ulcers; 7, syphilitic ulcers; 8, mercurial ulcers; 9, ulcers of the bones—*caries*.

The special inflammations comprised in that portion of the work that has reached us are, inflammation of the arteries—inflammation of the veins generally, and of the veins of the bones, and of the uterus—inflammation of the lymphatics, and of the lymphatic glands, acute and chronic.

The account of these inflammations is full and accurate; the views entertained in relation to the pathology of each, by the leading authorities of modern times, are presented with great clearness, and the general deductions of the author from

the observations upon which these opinions are based are particularly judicious; while his plans of treatment are, throughout, those which have received the sanction of the most experienced surgeons. To each of the leading sections and subsections is prefixed a very copious reference to the works of the principal authorities in relation to the particular subject under consideration.

Although we have found nothing in the work of Dr. Wernher of a very novel character, and but little that can be termed strictly original, we can recommend it, nevertheless, as presenting—in relation to the several subjects embraced in the three numbers that lay before us—an able digest of the present state of surgical pathology and therapeutics.

D. F. C.

ART. XXI.—*Chirurgischer Almanach für die jahre 1844 und 1845.* Von FR. ERNST BAUMGARTEN, Dr. Med. and Chir., Königl. Hannov. Bergchirurgus zu Clausthal, Oberdirector des General Vereins Norddeutscher Chirurgen, Director des Harzes Vereins, etc. Siebenter und Achter Jahrgang. Osterode und Goslar, 1845. 12mo. pp. 444.

A *Surgical Almanac for the years 1844 and 1845.* By F. E. BAUMGARTEN, Doctor of Medicine and Surgery, Royal Surgeon for Clausthal, Superior Director of the General Union of the Surgeons of North Germany and Director of the Harz Union, &c.

THE plan of this almanac is a very excellent one, and although embraced in a great measure in all our leading medical journals, we are nevertheless persuaded that a well conducted work of a character similar to that of Dr. Baumgarten, would, even in this country, be an admirable medium of communicating, at a small expense, to physicians in remote and secluded situations, much valuable information in relation to the publications devoted to the different departments of their profession and the principal improvements that have been recently made in each.

The almanac commences with a bibliographical notice of the several works upon surgical subjects published during the years 1842, 1843, and 1844. These notices are confined exclusively to works published in Germany, while they are throughout very brief and unsatisfactory. A more extended account of the contents of each work, with a sketch of the peculiar views advocated by its author, would render this portion of the almanac peculiarly interesting and valuable. Its interest and value would also be increased were it to embrace a notice of the leading works published in every portion of the world.

The bibliographical notices are followed by a concise system of surgery, made up of quotations from the works of the leading authors of the day. This is very good so far as it goes, but much too concise to convey any very valuable information. To this part of the work, which corresponds in some degree with our quarterly summary, there succeed 1st, official orders and notices; 2d, announcements of prize questions; 3d, miscellaneous matter interesting to the surgical profession; 4th, an account of various marks of honour and esteem bestowed upon surgeons; 5th, surgical appointments; 6th, residences of the surgeons of the first and second classes of the kingdom of Prussia; 7th, surgical appointments with the residences and deaths of surgeons in Hanover and Brunswick; 8th, deaths of surgeons in Prussia, and 9th, deaths of surgeons in other countries.

To the whole is added a list of the several works from which quotations have been made. Among these we find included, only two American publications, the *American Journal of the Medical Sciences*, and the *New York Medical and Surgical Journal*. The almanac concludes with two copious indices, first, of the authors referred to, and second, of the subjects noticed in the present volume.

D. F. C.

ART. XXII.—*A System of Human Anatomy, General and Special.* By ERASMUS WILSON, M. D., Lecturer on Anatomy, London. Third American from the third London Edition. Edited by PAUL B. GODDARD, A. M., M. D. Prof. of Anat., &c., in Franklin Med. Coll. of Philadelphia. With two hundred and thirty-three illustrations by Gilbert. Philadelphia: Lea & Blanchard, 1847: 8vo. pp. 610.

THE fact that this work has gone through six editions,—three in England and the same number in this country,—in as many years, besides having been translated into German, and this, notwithstanding the numerous excellent treatises on anatomy already extant, affords sufficient proofs of its great merits. Having already expressed our opinion of the work (see our Nos. for Oct. 1842, and Jan. 1843), in noticing the present edition we need only say that the author has not neglected the advantages for revision afforded him, but that he has “carefully corrected such oversights and omissions as may have occurred,” that “many parts which seemed scantily treated, he has entirely re-written; and he has endeavoured to give as full a description of every point in anatomy, whether important or trivial, as is consistent with the limits and objects of a practical manual.”

The editor expresses his conviction that the time would come, we think it has already come, when it will be “useless to present to the public a work on science, unless it is accompanied with numerous and exact illustrations, as the road to the mind is so much shorter and easier through the eye than any other avenue.”

For beauty and copiousness of illustration, and clearness and conciseness of description, this beautiful volume leaves little to be desired.

ART. XXIII.—*Handbook of Human Anatomy, General, Special and Topographical.* Translated from the original German of Dr. ALFRED VON BEHR, and adapted to the use of the English student, by JOHN BIRKETT, F. R. C. S., and Demonstrator of Anatomy at Guy's Hospital. Philada.: Lindsay & Blakiston, 1847: 12mo. pp. 487.

THIS is one of a series of volumes entitled “*The Pocket Encyclopedia of the Medical Sciences*” by Dr. Von Behr and Dr. Minding, now in course of publication at Erlangen, and it is intended “to afford the student a short and comprehensive detail of anatomical facts,” to serve either as an introduction to the study of anatomy, or for refreshing the memory more especially of those preparing for examinations.

The first thirty-seven pages are devoted to an outline of general anatomy; then follows special anatomy, which the author treats of under the following divisions: Osteology, Anthrologia, Myologia, Splanchnologia, Angiologia, and Neurologia; and finally, we have in the concluding thirty-seven pages a brief topographical survey of the more important regions of the body.

The author has executed his task of treating of all these subjects within the bounds of this small volume, by carrying brevity and abbreviation to their utmost limits. It is impossible to convey any idea of the manner in which this is accomplished, except by extracts, and we shall accordingly give two or three. The following is the author's description of the *gluteus maximus*.

“340. 3. *Gluteus maximus*. Pos.: one inch thick, close beneath the skin of the buttocks; broad, four-sided; covers *glut. med.*, *pyriform.*, *gemelli*, *obturat. intern.*, *quadrat. femor.*, *incisura ischiad. maj.*, *tuber ischii*, *Mm. semitendin.* and *membranos.*, *cap. long. bicipit.*; *trochanter major*, *adductor magn.*, *Nn. et vasa glutæa*, *ischiad.*, *pu-denda interna*. Or.: 1. posterior surface of *Ilium*, behind *lin. semicircul. poster.* 2. *spina ilei poster. super.* as far as *cornu sacrale*. Ins.: *Linea aspera*, the external crus, close under *trochanter major femoris*, and *fascia lata*. Use: extends the thigh backwards, draws and rotates it outwards; or draws (when standing upon one leg), the pelvic half of the other side, backwards; stretches the *fascia lata*, and maintains the *os. coccygis* in its situation.

“Nerves: *glutæus infer.*”

The superior branches of the subclavian artery are thus described:—

"554. Superior branches of *Art. subclavia*.—1. *Art. vertebralis*, the vertebral artery, the largest branch of the *subclavia*, supplies the spinal cord, *medulla oblongata*, the small and the posterior parts of the great brain. Or: at the superior, posterior wall of the *subclavia*, at the commencement from the arch. Course: vertically upwards and rather backwards, it enters between *proc. transvers.* of the sixth cervical vertebra into the *canalis vertebralis*, and ascends, slightly curved, to the second, turns backwards between this and the *atlas*, more still between *atlas* and *foramen magnum* behind *proc. condyloid. occipit.*, and enters the skull through *lig. obturatorium* and *dura mater*, round to the front of *medulla oblongata*, ascends upon *pars basilaris*, and unites with the *art. basilaris* of the other side. Position: at first very deep between *m. longus colli* and *scalenus antic.*, behind *art. thyreoid. inferior*, then in *canal. vertebralis*, in the interspaces covered by *mm. intertransversarii* and before the *nn. cervicales*; the first curvature between *m. trachelomastoid.* and *obliq. infr.*; the second between *obliq. sup. rectus capit. minor* and *lig. obturatorium*; in the cranial cavity: at the sides and before *medulla oblongata*."

The last extract we shall give is the following description of the parotid region:—

"691.—10. Parotid region, *Regio parotidea*, is bounded, anteriorly, by the posterior border of *ram. maxillar. infer.*; behind, by *proc. mastoid.* and *meatus auditor. extern.*; above, by *zygoma*; below, by the angle of the lower jaw, and a horizontal line backwards; internally, by *proc. styloideus*, *lig. stylo-maxillar.*,—*hyoideum*. The parotis occupies nearly the whole of this space, and is all round enclosed in fascia. Parts from without inwards: 1. Skin, slightly hairy (behind the beard of the cheek). 2. Close areolar tissue, having little fat, with branches of *n. auricular*, from *plex. cervicalis*. 3. Lymphatic glands. 4. Parotis; from it upwards: *art., ven. temp., rr. temporal. n. maxill. infer.*; behind: *art. auricular, post.*, and *rr. auricul. n. facia.* and *plexus cervical*. Inside the parotis: 1. behind, *n. facialis*, 6''' deep; in front its branches $\frac{1}{2}$ ''' deep. 2. *V. parotideæ*. 3. Deeper, *carotis externa*, close to the *proc. styloid.*"

In conclusion, we may say that the arrangement of the work is excellent; and that the author exhibits entire familiarity with his subject, although his description of the structure of some of the tissues does not correspond with the accounts of the latest observers. The book is better adapted, however, to the German than the American student. The latter wants the dogged perseverance of the former, and requires to be enticed to his task by every aid which illustrations, &c., can supply.

We must not omit to notice the style in which this volume is put forth, and which is exceedingly creditable to the American publishers.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Intimate Structure of Bone*.—MR. JOHN QUEKETT, in a communication to the Microscopical Society, Nov. 11th, stated he had ascertained that the cells of bone bore a certain relation in point of size to that of the blood discs. Thus, for instance, the blood discs were found to be largest in reptiles, smallest in birds and mammalia, and mixed in fishes of an intermediate size; and Mr. Q. has discovered that the bone cells follow the same law. The syren, proteus, and axolote, which have the largest blood discs of all the vertebrata, have also the largest bone cells.

2. *Process of Secretion*.—MECKEL, in a very elaborate paper on the glandular apparatus of lower animals (*Mikographie einiger Drüsenapparate der niederen Thieren. Müller's Archiv., Heft i., 1846*) mentions a circumstance observed by him, which he considers may offer some explanation of one of the hitherto unsolved problems relating to the process of secretion, namely, the discharge of the secreted fluid solely on the free surface of the secreting membrane, or its passage towards the cavity of the glandular canal, instead of being collected in the interstices of the secreting organ. Having carefully cleaned from all trace of albumen a portion of the lining membrane of the shell from a hen's egg, he tied it over the mouth of a glass cylinder filled with albumen, the internal surface of the membrane being directed inwards. The cylinder was then immersed in water, and, as might be expected, a portion of the water was speedily absorbed into it through the animal membrane; yet none of the albumen escaped. Upon reversing the experiment, by filling the glass cylinder with water, and placing it in a vessel containing albumen, a portion of the albumen was endosmosed, whilst scarcely any water was exosmosed in its stead. The membrane, therefore, appeared to allow the permeation of fluids from without inwards, but not at all, or to a very slight extent, from within outwards. In the opinion of Meckel, the membrane forming the glandular canals of a secreting organ may in some cases be constituted so as, like the lining membrane of the egg-shell, to allow of the passage of fluid through it in one direction, but not in the opposite.—*Kirke's Report in Ranking's Abstract*, vol. iv.

3. *On the Properties of the Bile*. By M. BLONDLOT.—The experiments which were some time ago performed by Schwann [see the number of this Journal for January 1847, p. 185, *et seq.*], with the view of determining the question whether the bile, besides being excrementitious, serves any important part in the economy, have been recently repeated with some modifications, and apparently with very different results, by Blondlot,* who is led to conclude that the bile, after leaving the liver, is of no further use in the process of digestion, being essentially and entirely an excrementitious fluid. In the first of his experiments,

* *Essai sur les Fonctions du Foie et de ses Annexes.* Paris, 1846.

Blondlot first established in a dog an external fistulous opening into the gall-bladder, and then tied the ductus choledochus in two places, dividing the tube between the ligatures. The animal appeared distressed at first, but recovered in a few hours, and drank some water, though it would not take food two days after. The bile continued to flow from the external opening, and was constantly licked off by the animal, who seemed determined not to lose a drop. On the fifteenth day the external wound had cicatrized, with the exception of the small aperture through which the bile flowed; the animal was then muzzled to prevent his licking, whereupon the feces became discoloured and hard. By this time the dog had become excessively thin, though he had eaten heartily; but he now began to regain flesh, and at the end of three months from the operation was in perfect health and activity, and continued so. The quantity of bile which continued to flow from the fistulous opening was from 10 to 12 drachms daily. This quantity was manifestly increased when fat, sugar, or other non-azotized substances were swallowed. All efforts with the abdominal muscles, as in voiding the excrements or vomiting, momentarily increased the quantity poured out. None of the resinous principle of the bile could be detected in the feces. Another animal which was operated on in the same way, and presented the same phenomena, was killed at the end of forty days, when it was found that the ductus choledochus had completely disappeared, a fact which would seem to render it probable that a like obliteration had taken place in the dog first experimented on. From the results of these two experiments, which seem to be the only ones on which the conclusion is based, M. Blondlot deduces that the bile takes no important part in the process of digestion.—*Ibid.*

4. *Supplementary Spleen, death from the patient being placed in the supine position.* By W. H. BAINBRIDGE, Esq.—(*London Med. Gaz.*, Dec. 1846.)—The subject of this case was a man ætat. 53, admitted into the Northern Hospital, with fractured thigh. This was dressed in the usual way, and he did very well for two or three days, when he complained much of pain in the back; this was followed by tympanitis; the bowels not having been opened since the accident, purgatives and enemata were administered, but the constipation resisted all measures for its removal, and the patient died on the 7th day after the accident.

Autopsy.—Intestines generally distended: no traces of peritonitis. On pushing the small bowels on one side, a tumour, about the size of a duck's egg, was observed lying on the pelvis, and connected with the great omentum, which it dragged down, and formed a band of cord, which passed in front of the large bowel at the commencement of the rectum, pressing it against the posterior part of the brim of the pelvis. When on his back the tumour would necessarily fall into the cavity of the pelvis, and cause the cord of the omentum above described to exert so much pressure on the bowel as to impede its functions. On further examination, the tumour was found to be a supplementary spleen, enclosed between the layers of the omentum, and receiving for its supply one of the divisions of the splenic artery, which, in fact, divided into two branches,—one to each spleen. The supplementary spleen was of the normal shape of that organ, on a microscopical examination exhibited conclusive proofs that it was a spleen by the peculiar disposition of the arteries and veins in its tissues;—in its well-marked fibrous and trabecular character and the remains of the Malpighian corpuscles;—in the existence of a few distinct granules, with the remains of others: and in the complete absence of anything like a microscopic cell-structure.

5. *On the Nature and source of the contents of the Fatal Stomach.* By GEO. ROBINSON, M.D.—(*Monthly Journal of Med. Sci.*, Jan. 1847.)—Whilst all physiologists who have examined the appearances presented by the alimentary canal of the fœtus, agree in representing the small intestines as actively engaged in the function of digestion, a remarkable difference of opinion has prevailed as to the source of the nutritious matter thus submitted to that process. Dr. Robinson's attention was directed to this subject by an accidental observation of the stomach of a fetal rabbit; and having subsequently examined the fœtuses of other animals, he met with a number of curious facts, which he communicated to the Royal Society of London, in June last.

The following are the general conclusions which he draws from these facts:—

1. That the stomach of the fœtus, during the latter period of its uterine existence, invariably contains a peculiar substance, differing from the liquor amnii, and generally of a nutritious nature.

2. That in its physical and chemical properties, this substance varies very much in different animals, being in no two species precisely similar.

3. That in each fœtal animal the contents of the stomach vary much at different periods; in the earlier stages of its development, consisting chiefly of liquor amnii, to which the other peculiar matters are gradually added.

4. That the liquor amnii continues to be swallowed by the fœtus up to the time of birth; and consequently after the formation of those matters, and their appearance in the stomach.

5. That the mixture of this more solid and nutritious substance with the liquor amnii constitutes the material submitted to the process of chymification in the fœtal intestines.

"The opinion," he observes, "that the fœtal chyle is principally formed from these matters, however, by no means implies a supposition that the *nutrition* of the fœtus is thus accomplished. For the actions which proceed in the chylopoietic viscera of the fœtus are, I imagine, chiefly useful from their gradually preparing the different organs for the important functions assigned to them in the economy of the mature animal. Whereas the nutrition of the fœtus is undoubtedly effected by its placental vessels, the venous capillaries of which (or to speak more correctly, the streams traversing them) possess an absorbing power precisely similar to that of the mesenteric veins. And as a portion of the fœtal blood, charged with the albuminous substance there absorbed, after passing through the umbilical vein, circulates in the blood-vessels of the liver, the presence of an albuminous fluid in the hepatic duct, as noticed by Drs. Lee and Prout, is by no means inexplicable. Viewed in this light, the umbilical vein of the fœtus will answer to the mesenteric veins of the adult, while the ramifications of the hepatic duct, in addition to their ordinary function, may be considered as to a certain extent representing the lacteals.

"The source of the peculiar substances found in the stomach of the fœtus still, however, remains to be determined. That they are not secreted by the stomach itself is, I think, rendered almost certain, by the uniformly pale, undeveloped condition of that viscus during fœtal life, and by the circumstance of their being occasionally met within the fauces and mouth of the animal. And coupling this latter fact with the negative argument constituted by the impossibility of assigning their production to any other organs, I am disposed to regard them as the secretion of the *salivary glands*, between the development of which and the gradual formation of these matters a certain degree of connection has appeared to me to exist."

6. *On the Absorption of Narcotic Poisons by the Lymphatics.* By Prof. BISCHOFF, of Giessen.—It is now many years since Emmert, in consequence of a series of experiments, came to the conclusion that narcotic poisons were either not taken up by the lymphatics at all; or that, if so taken up, they became so altered that they lost all their poisonous properties. Henle, on the other hand, gave the following explanation of the matter, to wit,—that narcotic poisons, following the general laws of imbibition and permeability, were actually taken up by the lymphatic vessels; but that, in consequence of the loss of contractile power in the walls of the latter, they were not conveyed through them, and hence gave rise to none of the usual symptoms of poisoning. By a new series of experiments, Professor Bischoff has demonstrated that neither of the above statements is correct, and that not only are narcotic poisons taken up by the lymphatics, but that they are also conveyed by them into the general circulation. Their propulsion through the vessels, therefore, is not prevented by any loss of power in their walls, but the absorption and conveyance of the poison is manifestly slow; and hence alone can the opposite results obtained by former experimenters be explained.—*Monthly Journ. of Med. Sci.*, Dec. 1846, from *Henle's Zeitschrift*.

MATERIA MEDICA AND PHARMACY.

7. *Syrup of Iodide and Chloride of Iron*.—This new preparation of iodine has been proposed by Mr. S. BATTLE, of London, who gives the subjoined formulæ for its preparation. It possesses more marked chalybeate powers than the iodide of iron. "This," he says, "is readily explained on reference to the constitution of the salt, in which the amount of iron is less than one-fourth of that of the iodine, the combining proportion of the former being twenty-eight, while that of the latter is one hundred and twenty-six. As iodine is incapable of entering into combination with a greater proportion of iron, in order to increase the quantity we may substitute another salt of iron, isomorphous in its crystal, and analogous in constitution in the protochloride. These two salts may be mixed in any proportion without decomposition, and thus present an elegant and powerful preparation of iron, while the iodine, by its action on the glandular system and secretory apparatus, tends to prevent that cerebral plethora which the salts of iron, when given *per se*, so frequently induce.

"The syrup of the iodide and chloride of iron, which it is the object of the preceding remarks to introduce to the notice of the profession, is prepared by first forming a solution of iodide of iron. This is effected by diffusing iodine in three or four times its weight of cold distilled water, and agitating for ten minutes with half the quantity of iron filings, added cautiously and gradually, when the colour changes from dark purple to a deep green, as combination takes place. The protochloride of iron is next formed, by acting upon iron filings with hydrochloric acid, specific gravity, 1.160. A copious disengagement of hydrogen gas ensues, and continues for several hours, during which the chlorine combines with one equivalent of iron, the fluid becomes neutral to test paper, and we obtain a solution of a green colour, also with a shade of blue. The two solutions are now mixed together, and so much refined sugar added as will form a syrup.

"The syrup ought to be of a pale green, representing the protosalts of iron. The proportions of the salts in solutions are so adjusted, that each fluidrachm of the syrup contains three grains of combined iodine and nearly four grains of iron, united partly with the iodine and partly with the chlorine. The following formula may afford an eligible mode of exhibition:—Syrup of iodide and chloride of iron, two drachms; syrup of orange-peel, four drachms; infusion of cascarrilla, four ounces. Mix for four draughts, one to be taken twice daily.

"The syrup of iodide of iron, and syrup of chloride of iron, may be made and kept separately, when they can be mixed in any proportion, according to the amount of iron or iodine the practitioner may wish to administer."—*Lancet*, Jan. 9th, 1847.

8. *Bromide of Potassium as a substitute for the Iodide*.—The low price of the bromide compared with that of the iodide of potassium has induced M. RICORD to substitute the former for the latter in the treatment of secondary syphilitic affections. The dose of the bromide is the same as of that of the iodide of potassium. It has produced the same therapeutical effects, but more slowly.—*Journal de Pharmacie*, April 1846.

9. *Santonine*.—This alkaloid, to which attention has been called by Berzelius, has been for some time employed by M. VOILLEMIER as an anthelmintic and with satisfactory results. M. PINEL, a pharmacist of Paris, has incorporated it in biscuits, in which form it is most advantageously administered. These biscuits have a pleasant taste, slightly bitter, and from three to four are the dose for an adult and two for children. This dose is sufficient to expel the worms. This medicine does not produce colic or purge, but seems to act as a poison to the worms.

10. *On the changes of composition which the Tincture of Iodine undergoes in keeping*.—M. GUIBOUT, in a discussion at the French Academy of Medicine, made some remarks on this subject which are of practical value.

"I wish," said the professor, "to direct the attention of the Academy to the variations which the alcoholic tincture of iodine presents in its constitution and

therapeutic effects, according to the length of time which has elapsed since its preparation.

"I will commence by taking a retrospect of the use of iodine since Coindet proposed it as a remedy for goitre. The alcoholic tincture was at that time prescribed in doses of four, six, or eight drops two or three times a day, in some aqueous liquid. But the iodine is precipitated on adding the tincture to water, the solid particles of iodine being held in suspension in the liquid; and these being deposited on the coats of the stomach, caused active irritation, and probably small local ulcerations. Thus it was found that persons attacked with goitre, but who in other respects were in good health, after commencing the tincture of iodine, experienced pains in the stomach, loss of appetite, bad digestion, and wasting, which gave rise to the opinion, prevalent at that time, that iodine could not be used for reducing goitre, without its producing, at the same time, a general emaciation; that it diminished, in particular, the breasts; and that when prescribed for young females it retarded the development of those organs designed for them by nature. Coindet, with the view of obviating these objections to the remedy, substituted for the alcoholic tincture a solution of iodine in iodide of potassium, which, giving no precipitation of iodine when added to water, acted as a mild and uniform stimulant to the stomach, and thus improved the digestive functions. Thus from that time, not only have all the objections which were previously urged against the use of iodine ceased to exist, but, on the other hand, it has been found that weak and debilitated patients improved in appetite and in condition, and young females acquired improved colour, increased development of the breasts, and regularity of the natural economy, in proof of the beneficial action of the medicine. I have taken a review of these circumstances, which must be in the recollection of most medical men, in order to establish the great difference which exists between the action of iodine when administered in the solid state, and in the state of perfect solution. I now pass to the examination of the mixture employed by M. Velpeau in the treatment of hydrocele.

"I will first consider the case of tincture of iodine recently prepared, such as that which I present to the Academy, which was made three days ago, according to the directions of the Codex, by dissolving, without heat, one part of iodine in twelve parts of spirit, sp. gr. .848. If this tincture be mixed with twice its weight of water, the iodine will be almost entirely precipitated in the form of black particles, easily separating by repose, and the supernatant liquid will be almost colourless. In what way should this mixture be taken? If the clear and transparent part only be taken, it would probably produce only a slight stimulating effect, due principally to the spirit. If, on the other hand, the liquid be shaken up before taking it, the solid particles of iodine would be deposited on the coats of the intestinal canal, and would produce a degree of irritation that may not be free from danger.

"I will now consider the case of tincture of iodine which has been prepared four or five months. The following is the change which has taken place during this interval of time. One part of the iodine takes hydrogen from the alcohol to form hydriodic acid, which unites with another portion of iodine to form ioduretted hydriodic acid, which gives no precipitate with water. On the other hand, the alcohol probably replaces the lost hydrogen by iodine, forming another compound not precipitated by water. It is found, therefore, on mixing this tincture, four or five months old, with twice its weight of water, that there is still a precipitation of iodine, but that the precipitate is three or four times less in quantity than that afforded by the recently made tincture. The supernatant liquor, in this case, however, will be much more highly coloured than in the other; and it is unquestionable that the effects of the mixture, whether it be given clear or with the precipitate, would be different from those of a similar mixture made with the recently prepared tincture.

"Lastly, if we take tincture of iodine that has been prepared for a year or a year and a half, it will scarcely cause any precipitation with water, and its medicinal effects will be different from those of the tincture in either of the cases previously considered.

"I conclude from these facts, to which I have long had my attention directed, that the alcoholic tincture of iodine is a medicine liable to variations in its compo-

sition and in its effects, and that it ought to be replaced by a somewhat similar mixture, which should be made extemporaneously. Such, for example, as the following, in which the whole of the iodine would remain in solution, forming a homogeneous mixture:

R.—Iodine, 5 parts.
Iodide of potassium, 6 parts.
Rectified spirit, 50 parts.
Distilled water, 100 parts.

Triturate the iodine, iodide of potassium, and part of the water in a mortar; then add the spirit, and the remainder of the water.”—*Journal de Pharmacie et de Chimie*, Aug. 1846, from *Bulletin de l'Académie de Médecine*.

11. *The action of the Acetate of Morphia on Children*.—Dr. MELION believes, from the results of his experience, that the acetate of morphia possesses more powerful anodyne and antispasmodic properties in children than opium. He divides its effects, when internally administered, into three degrees. 1st. All the secretions and excretions of the internal organs become diminished, but the cutaneous exhalation becomes increased; hence the skin becomes moist, and a copious perspiration covers the head and upper parts of the body; but before this effect takes place it shows its influence on the nervous system, and pain and convulsions cease; its influence lasts from three to six hours, the children then pass a quantity of pale urine, and cutaneous transpiration becomes normal.

2d. The nervous system is the first part affected. The child becomes dull, drowsy, and gradually falls into a state of stupor; it lies with the eyes shut or half open, one more so than the other; the ball of the eye may be either fixed or may roll; the pupil is contracted and inactive; the heat of the head is increased, and the scalp and face are covered with copious perspiration; the child murmurs or speaks during its sleep, and moves its upper lip and lower jaw as in the act of sucking; if it awakens from sleep, it desires to drink, and again falls asleep. This state may last for eight or twelve hours.

In the 3d degree, venous congestion shows itself over the whole body, the child lies listless, the skin is purple, the temperature diminished, the pupils contracted and inactive, the cardiac pulsations weak, the respiration slow, the pulse quick, or slow, small, and weak, and all secretions and excretions suppressed. If this state is not quickly removed, convulsions and death ensue.

Dr. M. employed the acetate with great benefit. 1st. In intestinal catarrh, in the chronic diarrhœa of scrofulous children, and in the profuse debilitating diarrhœa of dentition. 2dly. In convulsions arising from the irritation of dentition or worms. And 3dly. In whooping-cough. As it causes drowsiness and stupor, and other nervous symptoms, even in small doses, he considers it contra-indicated in all cerebral or meningeal affections.—*Monthly Journ. Med. Sci.*, Dec. 1846, from *Med. Wurtemberg Correspondenzblatt*.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

12. *On Anormal Nutrition and Diseases of the Blood*.—Dr. J. HUGHES BENNETT, in a very interesting paper, (*Monthly Journ. Med. Sci.*, Nov. 1846,) sustains the very correct general principle that diseases of nutrition and of the blood, are only to be combated by an endeavour to restore the deranged processes to their healthy state, in the order in which they are impaired; that for this purpose, a knowledge of the process of nutrition is a preliminary step to the rational treatment of these affections; that the theory of acting directly on the blood is incorrect; and that an expectant system is as bad as a purely empirical one.

“The various modes,” he remarks, “in which nutrition becomes impaired, and the blood diseased, can only be understood by passing in review the various steps of the nutritive process. We have already pointed out how pathology and rational medicine must be based upon anatomy and physiology, and there is no

one subject perhaps which is so well capable of illustrating this proposition as the one we are about to consider. For ages medical men have been in the habit of considering the blood to be the primary source of numerous maladies. It will be our endeavour to show, by an analysis of the process of nutrition, that the changes of the blood, and the diseases which accompany them, are not primary but secondary, that is dependent on previously existing circumstances, to the removal of which the rational practitioner must look as the means of curing his patient.

"For the sake of convenience of description and reference, we shall divide the process of nutrition in man into six stages. 1. The introduction into the stomach and intestinal canal of appropriate alimentary matters. 2. The formation from these of a nutritive fluid, the blood. 3. The exudation through the capillaries of a *formative blastema* in certain proportions. 4. The various transformations which the exudation undergoes in the formation of tissues and secretions. 5. The disappearance of those transformed matters, the functions of which are perfected, and the re-absorption of their effete particles into the blood. 6. The excretion of these from the body, in various forms and by different channels.

"These different stages comprehend not only growth, but the processes of assimilation, absorption, secretion, and excretion; and we believe that it is only by understanding nutrition in this enlarged sense that we can obtain a correct explanation of those important affections, which may appropriately be called diseases of nutrition. We shall first, however, consider each of these stages separately.

"1. *The introduction into the stomach and intestinal canal of appropriate alimentary matters.* Alimentary matters have been divided into several groups. The most simple is the modern one of azotized and non-azotized substances. The most important azotized principles are fibrin, albumen, and casein; the most important non-azotized are fat, starch, gum, and sugar. Both animal and vegetable aliments are capable of yielding similar proximate principles, although in different proportions. Those which are most subservient to nutrition, are albumen and oil. Dr. Ascherson, of Berlin, was the first to point out the effects produced by a union of these, and their importance in the formation of every organized tissue. His observations have been confirmed by every observer, and when we regard the proportions in which these principles enter into our food, their presence in milk, the natural food of young animals, their universality in every blastema and organized tissue, and the numerous experiments which prove that they are capable when united, although not alone, of furnishing the conditions necessary for the support of living animals, we are at once led to the conviction that albumen and oil are the chief alimentary matters destined for nutrition.

"Whilst albumen and oil may be considered as types of the chemical division of nutritive substances into nitrogenized and non-nitrogenized, they prove that other conditions than chemical ones are necessary for nutrition. When mingled together they produce an emulsion, identical in structure with that of the milk, that is, containing numerous globules composed of a minute drop of oil, enclosed in an albuminous membrane.* It is probable that the function of the stomach

* "It may be well to point out more particularly how this fact may be easily demonstrated. Place a drop of oil and one of the white of egg, of about equal size, on a slip of glass near each other. Unite the two together by means of a needle, and then by inclining the glass, allow the oil to flow over the albumen. A pellicle will be observed to have formed. Cover the whole lightly with a thin glass, and examine it microscopically with a power of 250 diameters linear. A membrane more or less folded or puckered will be seen to have been formed. If now the upper glass be rubbed gently forwards and backwards upon the under one, the oil and albumen will be mixed together, and the whole will assume the appearance of milk. If this be done dextrously, it will be seen on re-examination microscopically, that all traces of the membrane have disappeared, and that this emulsion presents all the characters of milk.

"Professor Vogel, now of Giessen, although well acquainted with the views of Ascherson, had never succeeded in this experiment, having always rubbed the oil and albumen together in a mortar. Neither had he ever seen the membrane, or globules alluded to, notwithstanding many efforts to do so, until I demonstrated them to him and his class last August in Göttingen."

and intestines consists in separating or converting from the contents submitted to them, albuminous and fatty matters in a fluid state, which, being absorbed, constitute that emulsion observed within the extremities of the villi when they are called into activity.

"In addition to the two classes of alimentary matters alluded to, there is another composed of mineral ingredients, such as common salt, phosphorus, sulphur and lime. These enter in sensible proportions into our food, are found in various tissues and fluids, and are essential to nutrition.

"It is unnecessary to dwell at any length upon the fact that of all the causes of disease, irregularity in diet is the most common. Neither need I do more than merely allude to the equally well known circumstance that of all the means of cure at our disposal, attention to the quantity and quality of the ingesta is by far the most powerful. The peculiar kind of interference with the aliment, which various diseases require, will be illustrated as we proceed further.

"2. *The formation from alimentary matters of a nutritive fluid—the blood.* The exact process by which blood is formed from alimentary matters has not yet been traced by physiologists. In the duodenum the chyme becomes mixed with bile, which produces important changes in it; but the nature of these, and the true uses of the bile are subjects which have not yet been positively determined. The matter absorbed, forms chyle, which, at the upper extremity of the thoracic duct has occasionally been observed to present a reddish tinge. But whether the formation of blood has been there commenced, or whether the redness is owing to a regurgitation of blood from the vessels is likewise a disputed point. When at length the chyle enters the torrent of the circulation, it presents all the characters of blood.

"The blood must be examined structurally and chemically. In structure it consists of numerous yellow corpuscles, a similar number of colourless corpuscles, and a few granules floating in a yellowish fluid, the liquor sanguinis. The liquor sanguinis consists of fibrin dissolved in serum, which has the property when drawn from the body, or under certain other circumstances, of coagulating. The facts connected with this subject are too well known for us to enter upon them minutely.

"It is exceedingly difficult to ascertain the exact chemical composition of healthy blood, but from the analyses which have been made, we may for practical purposes consider its various constituents to be present in 1000 parts in the following proportions: Water varies from 770 to 790 parts. Fibrin from 2 to 3 parts. Albumen from 60 to 70 parts. Corpuscles from 130 to 150 parts. Extractive matters, fat, and salts, from 10 to 20 parts.

"We know from the results of numerous analyses, that these proportions are greatly changed in various diseases, as we shall see when we come to speak of each separately. What we are desirous of alluding to now, however, is the well known fact that one of the most common causes of derangement in the blood is the different kinds of food. M. Denis mentions that in a young girl of good health the globules were represented by the proportion of 132. After 15 days of rigorous diet, they were represented by 85. The other constituents, but more especially the water, albumen, fat and salts, are modified to a like extent by changes in the diet.

"3. *The exudation through the capillaries of a nutritive fluid in certain proportions.* From the blood a fluid blastema is continually exuding through the capillaries for the formation and sustenance of the different tissues of the economy. It is necessary that this exudation should take place to an amount proportionate to that supplied to it by assimilation, on the one hand, and that dissipated by waste, on the other. If more or less be exuded, a morbid condition is occasioned. An increased amount of exudation, if poured forth slowly, gives rise to hypertrophies; if rapidly, to various morbid deposits. A diminished amount of exudation, on the other hand, produces atrophy.

"A normal amount of exudation essentially depends upon the integrity and healthy condition of the capillary vessels. These may be diminished or enlarged in size; they may be obstructed or lacerated, circumstances which, by impeding a healthy exudation, or rendering it excessive, give rise to morbid states. It is an increased exudation from the capillaries which constitutes that pathological

condition we have been in the habit of considering under the general term of inflammation.

"4. *The various transformations which the exudation undergoes, so as to produce the tissues and secretions.* This is now generally considered to take place through the agency of cell growth, in the manner first pointed out by Schleiden and Schwann. It is only necessary for us to say, with respect to this well-known theory, that it is not so universally applicable as its authors supposed. We have already seen that structures may be formed artificially by the union of oil and albumen; and we know that certain filaments, membranes, and even tissues, may be produced by simple deposition from a blastema, independently of the agency of cells. Still it must be conceded that, as regards most of the processes of growth, the theory of cytogenesis offers a very satisfactory explanation.

"Whilst the transformation of some cells is directed to the formation of the tissues, that of others seems to terminate in producing the various secretions. The observations of Messrs. Bowman and Goodsir, render it probable that this is the function of the ultimate cells in glands.

"Irregularities in the quantity or quality of the exudation not only more or less modify the transformations which the tissues undergo in a state of health, but other structures or cells, altogether foreign to the healthy animal condition, may, under such circumstances, be formed. Thus we have pus, exudation, plastic, tubercle, and cancer cells, together with those seen in typhous ulcerations, fungi, &c. &c. All such cells seem to be dependent on the exudation of a blastema, which, from its inherent composition, is not adapted to healthy nutrition. Hence that process is deranged, and an unhealthy or abnormal nutrition carried on in a blastema foreign to the physiological state of the body. It is important to remember, however, that the same general laws of growth and transformation preside over the abnormal as the normal cells.

"5. *The disappearance of these transformed matters, and the re-absorption of their effete particles into the blood.* During life, whilst new cells are continually formed, the old ones disappear. The latter shrink, shrivel up, and ultimately break down into a finely molecular matter, which passes into the blood through the capillaries, minute veins, and lymphatics. A quantity of effete matter is thus continually entering into the circulation, arising from the decay of all the tissues, but more especially from the muscular, osseous, nervous, adipose, and areolar tissues. The blood globules themselves probably dissolve after having performed their functions, and serve to swell the amount of effete matter in the blood.

"So long as the matters absorbed from the tissues correspond in quantity to the matters exuded and transformed, the physiological or healthy state is preserved. We know, however, that this is continually liable to be disordered from any of the causes we have formerly noticed which derange nutrition. In some cases, absorption takes place with great rapidity, as we occasionally observe after the formation of large abscesses. In others, this process is in no way proportionate to the quantity of matters exuded, as in plethora, hypertrophy, and morbid growths.

"The effete matters thus absorbed into the blood circulate with it, and always constitute an inherent part of its composition. It has been lately contended by Zimmerman that they form the fibrin of the blood, which, instead of being exuded to form the tissues, as has been generally supposed, is excreted from the body by the different glands. "It may be well to recapitulate some of his arguments in favour of this opinion:

"There is no fibrin in chyme, and very little in the chyle, and what is remarkable, much less in the chyle of carnivorous than in herbivorous animals, as horses and sheep. Hunger does not diminish its quantity in the chyle of horses, but on the contrary, rather increases it, if we can rely upon the experiments of Tiedemann and Gmelin, who concluded that the fibrin must get into the chyle through the lymphatics. Since, then, there is no fibrin in the chyme of carnivorous animals, whilst it constitutes so large a portion of their food, the object of digestion must be the transformation of fibrin into albumen. Further, the blood of carnivora contains less fibrin than the blood of herbivora. Again, lymph, that is the fluid part of the blood exuded in a state of disease, is loaded with fibrin, which would not be the case if it were the nutritive constituent of the blood. Lastly, the

experiments instituted by Magendie, Nasse, and others, who transfused blood deprived of fibrin into an animal, show, that after having circulated awhile, it contained fibrin and was coagulable.*

"Independently of the arguments thus cited by Zimmerman, there are others in support of his opinion. It seems extraordinary, for instance, that if the tissues are formed from fibrin, that principle should exist only in normal blood, in the small proportion of from 2 to 3 parts in 1000—a quantity wholly inadequate to build up the tissues. Again, we find the fibrin increased under circumstances where absorption from the tissues is very active, as in inflammatory diseases attended with exudation or emaciation, as in pneumonia, acute rheumatism, phthisis pulmonalis, &c. It seems, then, more rational to suppose that nutrition is dependent rather on the exudation of albumen than of fibrin, and that this latter constituent of the blood is more connected with the decaying than with the formative stage of nutrition. If this opinion be correct, we must regard the increase of fibrin in the blood as an effect, rather than, as some pathologists have supposed, the cause of inflammatory diseases.

"6. *The excretion of the effete matters from the body in various forms, and by different channels.* The circulating fluid having received the effete matters in the manner we have described, again parts with them through the agency of the glands, in the form of various secretions and excretions. Glands are nourished by, and formed like all other textures, but their cellular structure is endowed with the property of secreting different substances from the blood. Thus the cells of the liver secrete bile; those of the kidney, urea; those of the mamma, milk; those of the testis, the spermatic fluid, &c. &c. In this way much of the carbonized and nitrogenized matters, whether received from the assimilation of alimentary substances, or the result of the transformation of the tissues, is again excreted from the system, as bile, urea, &c.

"The mineral matters received into the blood pass through the same process. The lime and phosphorus absorbed from the alimentary canal, unite to form the constituents of bone, and when re-absorbed are excreted under new combinations in the urine and feces. The muriate of soda is decomposed in the tissues. The acid is found in the gastric juice, or is exhaled by the skin, while the soda is excreted with the bile by the liver. Sulphur has also lately been shown to pass out of the system, mixed with bile.

"To complete the physiological changes connected with the function of nutrition, it is only necessary to remember that carbonic acid gas, the result of decomposition in the food and tissues, and water, are continually given off by the lungs, and skin, and that the oxygen which enters the blood through the lungs, is essential to the performance of all those complicated processes which we have enumerated.

"Thus we may consider that there are two kinds of digestion continually going on in the body—one in the stomach and intestines, the other in the tissues; that the blood is the recipient of both, distributing the results of the first to build up the tissues, and of the second to constitute the various excretions. In this manner the circulation of the blood may be compared to a river flowing through a populous city, which serves at the same time to supply the wants of its inhabitants, and to remove all the impurities that from numerous channels find their way into its stream.

"We can now readily understand how derangement in one stage of the nutritive process, more or less affects the others. Thus, if alimentary matters are not furnished in sufficient quantity, and of a proper quality, the blood is rendered anormal, and it necessarily follows that the exudation from it will be anormal also, and its subsequent transformations more or less modified. Again, if secretion be checked, the blood is not drained of its effete matter; and if excretion be prevented, the secretions themselves may enter the blood, and act upon it as a poison.

"A diseased or morbid state of the blood, therefore, may arise from either of the stages of nutrition we have described, being rendered irregular, or otherwise anormal. In whatever part of the chain interruption takes place, it will, if long continued, affect the whole. Thus, a bad assimilation of food produces through

* Zur Analysis und Synthesis, der pseudo-plastischen, Prozesse.

the blood bad secretions and excretions, whilst an accidental arrest of one of the latter reacts through the blood on the assimilating powers. The forms of disease thus arising may be endless, but they may all be traced to the following causes:—

- " 1. An improper quantity or quality of the food.
- " 2. Circumstances preventing assimilation.
- " 3. Altered quality or quantity of the exudation.
- " 4. An anormal transformation of the exudation.
- " 5. The accumulation of effete matters in the blood.
- " 6. Obstacles to the excretion of these from the body.

" Examples in which each of these causes, separately or combined, have occasioned disease, must have occurred to every practitioner. It is true that all general diseases are accompanied by certain changes in the blood, but these changes are to be removed, not by operating on the blood directly, but by obviating or removing those circumstances which have deranged the state of nutrition primarily affected. For instance, a very intense form of disease may be produced in infants, from improper lactation. The remedy is obvious, and we procure a healthy nurse. Ischuria is followed by coma, from the accumulation of urea; we give diuretics to increase the flow of urine, and the symptoms subside. In the one case we furnish the elementary principles necessary for nutrition; in the other, we remove the residue of the process. In both cases the blood is diseased, but its restoration to health is produced by acting on a knowledge of the causes which led to its derangement.

" In the same manner we might illustrate the indications for rational practice in the other classes of causes tending to derange the blood, which we have enumerated. Thus, although there be a proper quantity or quality of the food, there may be circumstances which impede its assimilation; for instance, a too great acidity or irritability of the stomach—the use of alcoholic drinks—inflammation or cancer of the organ. It is the discovery and removal of these that constitute the chief indications of the rational practitioner. Again, the capillary vessels become over distended with blood, and the exudation of liquor sanguinis to an unusual amount takes place, constituting inflammation. How is this to be removed? In the early stage topical bleeding will diminish the congestion, and the application of cold will check the amount of exudation. But the exudation having once coagulated outside the vessels, acts as a foreign body, and the treatment must then be directed to furthering the transformations which take place in it, and facilitating the absorption and excretion of effete matter. This is accomplished by the local application of heat and moisture—the internal use of neutral salts to dissolve the increase of fibrin in the blood, and the employment of diuretics and purgatives to assist its excretion by urine or stool."

13. *Acute Spinal Myelitis*.—Several cases of acute myelitis treated in M. ROSTAN'S wards, have given this professor an opportunity of sketching the features of this affection, hitherto so obscure, and of methodising its principal therapeutic indications. A few only of the prominent points can be here noticed, those on which M. Rostan particularly insists, and which he believes sufficient for establishing the diagnosis. Of these, the summary is as follows: On the one hand, complete retention of the senses and intellectual functions; on the other, various derangements in the sensibility and power of motion in the extremities, and especially the lower extremities. But these derangements in the power of motion and the sensibility, are very variable according to the degrees and different periods of the disease, and it is owing to having for the most part, failed to take account of all the degrees and shades of these symptoms that this affection has been so often misunderstood at its commencement, that is, at the period when energetic treatment may avail to prevent its disastrous consequences. These first symptoms, by which myelitis is announced, are sometimes cramps, more or less frequent, and muscular contractions of longer or shorter duration; at other times pains in the extremities are the only symptoms complained of without any appearance of change in the contractility; in other cases muscular tremors, true convulsive movements come on; lastly, in some the loss of sense and motion appear at once from the commencement. Whatever may have been the initiatory symptoms, it is always by the more or less complete abolition of sensibility and

motion that the scene terminates. There is another symptom, to which M. Rostan attaches much importance, viz., the abolition of the erectile power in the male—the functions of the rectum and bladder, though often more or less affected, sometimes remain unaltered, so as to fail of affording diagnostic signs. And to pain on pressure over the spine as a diagnostic, M. Rostan attaches very little importance.

The antiphlogistic method forms the basis of this physician's treatment,—he has recourse to general and local evacuations of blood. But as detraction of blood is not always practicable in the requisite degree, or when practicable is insufficient, M. Rostan uses as subsidiary, blisters, setons, moxas, and purgatives; lastly, in the final resort, and after the insufficiency of the means already enumerated is manifest, he has recourse to strychnine, electricity, and the various excitants of the nervous system.

The following are among the cases recently treated by M. Rostan :—

I. *Acute myelitis—energetic antiphlogistic treatment—amelioration—sudden attack of meningo-encephalitis—death.*—A young man of a vigorous constitution, after having been exposed to wet, became affected with extreme weakness in the lower extremities. As this weakness went on increasing he came to the Hôtel Dieu, when the following symptoms were observed :—Fever, pulse 96, skin hot and dry. The intelligence is quite sound; no headache. The upper extremities are in a slight degree weakened. The lower extremities have lost entirely their sensibility, and the power of motion in them is quite gone. The bladder and rectum are unaffected. Pressure made with the fingers over the spinous processes of the vertebræ excites no uneasiness.

M. Rostan pronounced him to labour under acute myelitis, and prescribed an energetic antiphlogistic treatment; blood-lettings from the arm and cuppings over the spine were repeated for several days. On the third day of this treatment, the patient experienced an amelioration so great that he was already considered in a state of convalescence; the sensibility and power of motion were so fully recovered that he could walk and move about without support, when after exposing himself anew to cold, he was seized with otitis, accompanied with a purulent discharge from the ear, swelling in the region of the parotid, erythema of the neck and breast, then in succession with symptoms of meningo-cephalitis of the most intense description, which cut him off in two days.

On dissection, the spinal marrow was found slightly softened towards its lower part to the extent of between one and two inches (3 to 4 centimetres), and healthy everywhere besides. In the head were seen the anatomical characters of commencing meningo-encephalitis; vivid injection of the pia mater and arachnoid, adhering at some points to the cerebral pulp; convolutions turgid and prominent; punctuated injection of the cerebral pulp, &c.

II. *Acute myelitis—antiphlogistic treatment—rapid cure.*—A man of fifty years of age, robust, usually enjoying good health, was seized after a cold bath with general prostration, a sense of lassitude and weakness in the loins and extremities. This weakness augmenting, there soon arose a tingling in the feet, then an almost complete abolition of sensibility in the movements of the lower extremities; the upper extremities also were somewhat affected. Unequivocal entireness of intelligence and the senses; no headache; febrile excitement. The rectum and bladder were unaffected. No pain on pressure over the vertebral column. M. Rostan directed four bleedings from the arm within two days, and cuppings along the spine. There was an evident amelioration almost from the first bleeding. At the end of eight or ten days the cure was complete.—*M. J. Med. Sci.*, Nov. 1846, from *Gaz. Médicale de Paris*, Oct. 3, 1846.

14. *Curability of Hypertrophy of the Heart.*—M. ROSTAN, whilst prescribing for a young woman, now in his wards at the Hôtel-Dieu, declared that it was an error to suppose that this disease was beyond the resources of art. Experience has proved to him that it is radically curable in certain conditions where remedies can be tolerated, in proof of which he related the following case :

A blacksmith, aged twenty-seven years, robust, not fat, but powerfully muscular, with large shoulders, offering all the appearance of an athlete, entered some years ago, into the ward of M. Rostan, at the Hôtel Dieu, with hypertrophy of the heart. This organ was of enormous volume, raised the corresponding side of

the thoracic cavity, presented extensive dullness, and all the incontestable signs of hypertrophy—dyspnœa was considerable. The occupation of this man had probably contributed, by the incessant action of the muscles of the arms and thorax, to exaggerate the hypertrophy. The patient, who possessed as much moral as physical force, was resolved to submit to anything necessary for the cure of so serious a disorder. M. Rostan submitted him to the rigorous method of Valsalva and Albertini: repeated blood-lettings, general and local, water for drink, “bouille” only for nutriment, and in quantity just sufficient to sustain life, and absolute immobility in bed, where the remedies were employed during three months. At the end of this time the amelioration was so well marked, that in a short time the patient might be considered as cured. The physical signs of hypertrophy had, in fact, completely disappeared, the dullness of the heart was limited to an extent almost normal, and the respiration was again free, and its rhythm natural. The patient was then better nourished by degrees, and he left the clinic in the most satisfactory state. M. Rostan greatly regretted that he had never seen this man since, in order to assure himself of the persistence of the cure, but there is every reason to believe that the benefit would be durable. This is not the only case which could be cited. Laennec has observed similar instances of cure, which have been confirmed by examination of the body after death. The heart in these individuals was found shrivelled, like an apple which has been submitted to the action of an air-pump, and afterwards exposed to the air—(comparison of Laennec.) This shrivelling of the surface was the consequence of the disappearance of the hypertrophy. M. Rostan himself has never verified this observation. The success of Valsalva’s treatment he believes to be dependent upon the individual being robust, plethoric, tolerant of repeated blood-lettings, and possessed of courage, resolution, and patience. Thus, it is not applicable to the young woman at present in the hospital, as she is thin, pale, and incapable of sustaining such a treatment.—*Annales de Thérapeutique*, May, 1846.

15. *Rupture of the left Ventricle of the Heart.*—Spontaneous rupture of the heart is of sufficiently rare occurrence to induce us to transfer to our pages the following notice, communicated to the Pathological Society of London, by Mr. CRISP, of a case in which this accident occurred.

The patient, ætat. 73, had been ill six weeks, when he was suddenly seized, about 12 at noon, with pain in the region of the heart, which was attributed to indigestion; a large quantity of flatus was expelled from the stomach. At half past 4 he vomited some undigested matter. One hour afterwards he said he was free from pain, but felt a curious sensation in the cardiac region which he could not describe. Five minutes afterwards he was found dead.

Inspection, eighteen hours after death.—Body muscular, depending parts of a livid hue. On opening the pericardium, a quantity of bloody serum escaped: this cavity contained a large quantity of coagulated blood, which was found to have escaped from a small rupture at the posterior part of the ventricle, about one inch from the apex. The chordæ tendinæ were also ruptured; the walls of the ventricle at the injured part did not appear thinner than natural; but intermixed with the muscular fibres was a white, fatty, adipoceros-looking matter; the valves healthy; the left ventricle hypertrophied, one-third thicker than usual; the lungs healthy. Mr. Crisp remarked, that spontaneous rupture of the parietes of the heart was of rare occurrence, and wished to direct attention to the altered condition of the muscular structure. He was induced to think, from the examination of a few specimens of spontaneous rupture of the left ventricle, that this kind of degeneration was generally present. He considered another interesting feature in the case was the time that elapsed between the commencement of the rupture and the patient’s death, and thought it probable that the chordæ tendinæ first gave way, and that the aperture in the ventricle was subsequently formed.—*Lond. Med. Gaz.*, Nov. 1846.

16. *Aneurism of the Basilar Artery.*—Of this rare disease three cases have recently been recorded.

One case was communicated to the pathological society of Manchester, by Dr. FRANCIS. The aneurism arose from the junction of the left carotid and posterior

communicating arteries, and involved both these vessels. Upon the outer and inferior wall was a ragged opening, a line and a half in length, through which fatal hemorrhage into the surrounding parts had ensued.

The lateral ventricles were greatly enlarged, and filled with clotted blood mingled with flocculi of brain, which had been broken from their walls, and the central parts between them. The fourth ventricle was much distended by the hemorrhage, which had also extended around the medulla oblongata, cerebellum, and the base of the brain generally.

The left side of the heart was empty, the right, together with the lungs, full of blood, and, excepting a few small spots of commencing atheroma in the thoracic aorta, the viscera of the trunk were sound.

The patient, a female servant, æt. 62, had gone to bed in apparent health, after having eaten her ordinary evening meal, and whilst in the act of rising on the following morning was, suddenly and without any warning, seized with semi-convulsions, passing rapidly into profound coma, in which she died rather less than an hour from the seizure.

She had gone about her duties with the appearance of health, and had made no complaints to those about her of any premonitory symptoms.

Judging from the time which elapsed before death took place, it is probable that the opening in the artery was gradually increased in size, and that the force of the extravasated blood expended itself upon the central and anterior parts of the brain, before it invaded the medulla oblongata; the situation of the bleeding point being mainly instrumental in determining the rapidity of death.

The rupture itself appeared to have been the result of gradual attenuation of the walls of that part of the sac, rather than of any vital change leading to their disintegration.—*Lond. Med. Gaz.*, July, 1846.

Another case was communicated to the same society by Dr. EAGER. The aneurism was situated near the bifurcation of the basilar into the cerebral arteries. The entire tumour was small, not exceeding in size a common pea, and it had a ragged fissure, through which the blood had flowed during the fatal seizure. The position of the aneurism was in the track of the portio dura, and had obviously pressed upon the origin of this nerve, as appears from the following detail of symptoms:

William Yates, æt. 58, began to complain nine months ago of distressing pains in the head, which extended from back to front, but were not lancinating.

Three weeks subsequently paralysis of the right side of the face followed, and was continuous until the day of death, affecting all the parts supplied by the right facial nerve. The pains in the occipito-frontal region, at all times severe, were increased after the ingestion of food. There was no deviation of the tongue, and deglutition was naturally performed. The thoracic and abdominal viscera were all healthy.

These symptoms remained unaltered until two weeks before death, when, in the night, she was seized with hemiplegia of the left side. The tongue could no longer be protruded, the powers of utterance failed, and deglutition was so extremely difficult as to threaten suffocation at each attempt to swallow.

He continued in this state until death, which happened suddenly, during a fit of laughter caused by the conversation of a friend. Throughout the entire illness the mental faculties were unaffected, and the memory was as good as at any former time.

The body was examined twenty hours after death. In sawing through the calvarium at least two ounces of fluid blood escaped through a rent made in the membranes. Blood was generally effused over the surface of the brain, and a firm coagulum was found at the base. There was considerable serous effusion into the lateral ventricles, in the anterior portions of which coagula were also observed. The velum interpositum was broken down from mechanical pressure. The basilar artery presented the appearances seen in the woodcut, which is represented in reverse to show the fissure.

Dr. Eager remarked, that the aneurism satisfactorily accounted for the principal symptoms, and especially for the paralysis of the muscular parts supplied by the facial nerve. That the occurrence of hemiplegia could alone be accounted for on the supposition that a small fissure in the aneurismal sac, with a certain amount

of hemorrhage, had happened two weeks before death, and which, from favourable circumstances, had closed up, and thus for some days prolonged the patient's life. And, further, that the fatal attack was explicable by the presence of a great quantity of fluid blood to appearances recently effused*—*Ibid.*, Aug. 1846.

A third case is recorded by Dr. Pfeufer in *Allgemeine's Report*, March, 1844. (See the number of this Journal for Jan. 1846, p. 213.)

The fourth case will be found in the number of this Journal for January, 1846, p. 64, recorded by Dr. Ruschenberger.

17. *Observations on some cases of Sudden or very Speedy Deaths, probably dependent on Diseases of the Heart and large Blood-vessels.* By H. C. LOMBARD, M. D., of Geneva.—It is not a very long time since all cases of sudden death were regarded as *apoplexies*, and consequently referred to affection of the brain. At the present time, in consequence of more accurate researches, it is generally agreed, that the greater portion of them depend upon *diseases of the heart or large blood-vessels*. In fact, if we except some cases of hemorrhage into the pons varolii or medulla oblongata, it is very rare for sudden death to occur from cerebral apoplexy, the patient almost always surviving the rupture of the cerebral substance, and the compression of the brain by the effused fluid, several hours. We must then receive with distrust several of the cases related under the title of "thundering apoplexy," when the death has been very sudden, and the lesion not verified by an autopsy.

It is quite otherwise with regard to death produced by a morbid condition of the heart and the large vessels. An old practitioner, Dr. Butini, of Geneva, once said to me, in reference to a sudden death which took place in a case of heart-disease—"You must not be surprised at this sudden termination. More than a third part of such patients die in this manner, some in turning round in bed, and others, and this is the most frequent case, while getting up to go to stool; so that you must consider sudden death as an ordinary consequence of disease of the heart and hydrothorax." I have had frequent occasion to verify the exactitude of these words, which were addressed to me at the commencement of my medical career: and now, after seventeen years' practice, I wish to add the result of my experience to that of the distinguished physician I have named. In fact, both in my private and hospital practice, I have had frequent occasion to meet with sudden terminations of heart-disease. I have seen patients die suddenly at every stage of these affections; sometimes when the organic changes were so little advanced as not to prevent them following their ordinary occupations; at others, when the extent of the changes, and the complication of dropsy, had long confined them to bed, or at all events to the house: and, if it were desired to establish the proportion between the frequency of sudden deaths among those who seemed only to be slightly attacked and those who were so seriously, it would be in favour of the former I should declare—in other words—the less advanced the organic disease the more frequent are the sudden deaths.

Theory explains the sudden death of persons suffering from heart disease. In fact, when the central organ of the circulation is in its normal condition, the temporary cessation of its functions is rarely of serious consequence; while, when its cavities or orifices are in a diseased condition, such suspension, for however short a period, may be attended with the worst consequences. A comparison will cause this to be better understood. Two wagons heavily laden seem to roll along with like facility as long as their movement meets with no obstacle. But suppose the horses stop awhile, you perceive a great difference. The axle of one of the wagons presents an irregular surface from lack of oil. That of the other turns easily without noise or friction. The efforts of the horses are now tasked to

* The occurrence, within so short a period, of two such rare aneurisms as the present, and the one exhibited at the meeting in July by Dr. Francis, contrasting so remarkably in their symptoms both before and at the period of death,—in the absence of suffering during life, and the comparatively slow death in the one case, and the long continuance of the pain, and the instant death in the other,—excited a lively attention. The reason for the presence of so much pain in the one case, and its total absence in the other, would appear to form an interesting subject for further investigation.

put the wheels in motion, and while the wagon having the easy axle is drawn with the greatest facility, the other obstinately resists the most vigorous efforts of the horses. The two surfaces, which should slide easily over each other, are motionless, and the horses uselessly exhaust themselves. However trivial this comparison may seem, it may give some idea of what takes place in a diseased heart, which has yet up to a certain time performed its functions without much difficulty. A syncope then, however, happens to occur, and all the efforts of the cardiac nerves upon the muscular substance, either enfeebled or impeded by obstacles at the orifices, are powerless, and the syncope, which in a healthy heart would have promptly disappeared, becomes the cause of death in a diseased one.

On examining the facts we find these cases may be divided into two quite distinct classes; that in which there is simple syncope and instant death, and that in which there is a considerable impediment in the circulation, and not leading to instant death, but producing such a disorder in the vital functions as leads to their cessation in the course of a few minutes. To fatal syncope are to be referred those cases of sudden death occurring when persons affected with disease of the heart are in the act of turning round in bed, or rising to go to stool. Besides *death by syncope*, however, diseases of the heart and large blood-vessels also frequently induce another description of death which I shall term *death from suffocating spasm*, in order to indicate its predominant characteristic. This, as that from syncope, may occur in persons apparently in the midst of excellent health, but who are really subjects of organic lesions.

Three cases are detailed in exemplification of the characters of this species of death. It is not so sudden as that from syncope, the patient dying in ten or twelve minutes. The attack occurs in the midst of apparent health. The respiration is excessively laborious and noisy, the patient the while tossing his arms in convulsive struggle, and expressing by his countenance or some word, for consciousness continues, the extreme of anguish and terror. A white foam flows from the mouth for some hours after death. "What is the mechanism of death in these cases? Is it a paralysis of the cardiac or inspiratory nerves? Is it a spasm of the cardiac or thoracic muscles? Paralysis, it seems to us, if complete should induce instant death by a fatal syncope; while, if it came on gradually, it would cause a lingering asphyxia which would only induce death at the end of some hours, or at all events in a much longer period than a few minutes; and the pallor of the countenance of these patients contradicts the supposition of the existence of any such asphyxia. I am disposed to place more weight on the explanation by the existence of a *spasmodic condition of the muscles of the heart and of inspiration*, inasmuch as the symptoms are such as those resulting from the condition known as spasm: and the sudden nature of the death indicates the muscles implicated. These cases bear some resemblance to *angina pectoris*, but yet need not be confounded with it. Indeed, although death is usually sudden in angina, yet, out of the great number of cases I have perused, and especially those collected by Jurine and Forbes, I have not been able to find one in which it occurred during the first and only attack; while in no one of the three cases I have related had the patient previously suffered from angina. Angina usually occurs either while the patient is walking or asleep; but in two of these cases the patients were quietly seated in their rooms, and no one of them was asleep. Again, in angina there is not that abundant issue of foam from the mouth and nostrils seen in these cases. Lastly, two of the three patients were women; and yet of the 88 cases of angina analyzed by Forbes in the *Cyclopædia of Practical Medicine*, 80 occurred in men and only 8 in women.

"What should be done if called to a case of suffocating spasm soon enough? In the absence of all exact notion of the cause of the affection, we must content ourselves with treating symptoms. I should cause the patient to be seated with his head supported, all ligatures formed by articles of dress being removed. I should apply sinapisms to the thighs, or better still, a cloth dipped in boiling water to the chest. I should administer some alcoholic or anti-spasmodic fluid, and if the patient could not swallow, a napkin might be dipped in æther, Eau de Cologne, or some such fluid, and held near his face. As long as the pulse continued low or the respiration embarrassed I should sprinkle the face with cold

water. As a general rule, I should, on account of the pallor of the countenance, abstain from bleeding."—*Med. Chir. Rev.*, Jan., from *Gazette Médicale*, No. 47.

18. *Obliteration of the Vena Cava Descendens*.—Dr. CARSON presented to the Newton Branch of the Prov. Med. and Surg. Assoc. for their examination, a labourer in a soap manufactory, exposed in his work to sudden and great vicissitudes of temperature, in whom, in the end of last August, after a severe lancinating pain, extending from a point beneath the fourth rib, upon the right side, near the sternum, to a corresponding point behind upon the same level, between the base of the scapula and the spine, increased by full inspiration, and accompanied with a hard dry cough, rigors and fever flushes, there was gradually developed œdema of the head and neck, upper extremities, and of the upper parts of the chest, and unusual dilatation of the superficial veins of these parts, and of the rest of the trunk of the body. These symptoms were attended with sense of fulness in the head and neck, buzzing of the ears, and flashes of light before the eyes, difficulty of breathing except in the erect position, and inability to lie upon the left side, in consequence of which the œdema was most remarkable upon the right side. There were no indications from auscultation, of disease in the lungs, heart, or large blood-vessels of the chest, with the exception of a large moist crepitus at the base of the right lung, indicating an œdematous condition of its tissue. There was no dilatation of the veins, or œdema of the lower extremities.

From the use of moderate antiphlogistic treatment, diuretics, and from the comforts of the hospital, all these symptoms gradually subsided, with the exception of the dilated condition of the veins, which was rather more marked in consequence of the subsidence of the œdema. The last symptom that was mitigated was the sense of fulness in the head and neck, which in some degree still continues when he suddenly stoops down. In consequence of returning too soon to his work, and of the severity of the weather, he was attacked with catarrh and a return of the symptoms; which, however, under similar treatment, shortly subsided, and he has continued in good health up to the present day, still able to work. He has no difficulty of breathing in walking fast or up hill, and the sense of fulness in the head is only troublesome when he stoops down. His present appearance is that of a man in robust health; there is a dark hue in the complexion, increased when he stoops down, and there is a very dilated condition of the veins of the forehead, neck, upper extremities, and of the trunk of the body, particularly on the anterior surface. Large veins as thick as a swan's quill proceed from above the upper edge of the clavicle, and from the axilla over the anterior surface of the thorax, in a tolerably straight course, to a *tortuous* cluster of veins in the epigastrium, from which emanate a number of veins running in a straight uncontroverted course to the groin, the latter being rather thicker than those coming from the neck and axilla. The course of the blood in all these veins is from above, downwards.

Dr. Carson inferred the existence of obliteration of the vena cava descendens, between the entrance of the azygos vein and the right auricle, and the consequent return of all the venous blood of the body to the heart by the ascending cava. The return of the venous blood to the heart from the head, neck, upper extremities, and the walls of the chest, he inferred to take place by a retrograde course through the dilated superficial veins of the chest, the deep-seated plexus of veins surrounding and within the spinal column, through the internal mammary, intercostal, azygos, and superior diaphragmatic veins, and from these by a direct course through the inferior diaphragmatic, lumbar, demiazygos, superficial and deep-seated epigastric veins, pouring their blood into the ascending cava directly, and into the renal and iliac veins. The obliteration of the cava between the azygos vein and the right auricle, is inferred from the seat of the pain, and from the tortuous condition of the large cluster of veins at the epigastrium, and beneath the edges of the ribs, for a few inches on each side of it. The plexus of superficial and deep-seated veins of the chest, at and around the epigastrium, are evacuated into the superficial axillary, the external and internal mammary, the superior and inferior diaphragmatic and the superficial and deep-seated epigastric veins. If the passage to the heart through the azygos veins of the venous blood from the walls of the chest be cut off, the pressure upon the veins at the epigastrium must be increased, and hence their tortuosity, which may therefore be considered, in con-

formity with Dr. Watson's views, as a test of the portion of the cava obliterated. If this inference be correct, the present case is precisely similar to that described by Dr. Reid, in the 43d volume of the *Edinburgh Medical and Surgical Journal*, and the appearances discovered by him in the body of his patient, dead from other causes, may be a guide in determining the cause and prognosis in the present case. There is nothing in the obliteration of either of the cavæ, provided it take place gradually, which would of itself lead to an unfavourable prognosis, but in the great majority of the cases on record, the obliteration has depended upon aneurismal or other tumours, which have been the cause of a fatal result. In Dr. Reid's case, the obliteration appears to have resulted from enlargement of the bronchial glands, from inflammation, which had obliterated the cavity of the vein by pressure upon its walls. Dr. Carson was inclined to a favourable prognosis in the present case, as he did not consider it probable that an aneurism of the ascending aorta, in such a position as would produce obliteration of the cava in the given position, would remain latent and undiscovered by the ordinary modes of investigation, for so long a period. The healthy appearance of the patient precludes the idea of a malignant tumour. The only other explanation would be that of a local phlebitis, whose presence was indicated by the pain. The retrograde course of the blood in the veins, in spite of the valves, was considered by Dr. Carson to be explicable by the circumstance of there being, with few unimportant exceptions, no valves in the veins of the trunk of the body.—*Prov. Med. and Surg. Journ.*, Aug. 5th, 1846.

19. *Treatment of Chronic Bronchitis and Bronchial Asthma.*—DR. THEOPHILUS THOMPSON, in a paper read before the Medical Society of London, invited the attention of the society to a class of cases claiming our careful study in consequence of their frequent occurrence, and their injurious influence on the constitution, often occasioning disease of the heart, or, especially when extending throughout the ultimate pulmonary ramifications, tending to the production of dropsy. Amongst the applicants for relief at the Hospital for Consumption and Diseases of the Lungs, he stated that a very large proportion are affected with chronic bronchitis, in the form which Dr. Thompson proceeded to describe. They present themselves with respiration, a little wheezing, and somewhat hurried by exertion; their complexion in some degree affected by partial deficiency of oxygen, often without pain of chest, or acceleration of pulse, but with inspiration rather laborious, and expiration prolonged. On listening to the chest, the respiratory murmur is found to be more or less extensively superseded by mucous rhonchus, commonly intermixed with the sonorous and sibilant. The sleep of such patients is usually disturbed. Those possessing much peculiar nervous susceptibility are liable to distinct paroxysms of asthma, often occurring an hour or two after retiring to rest. If you inquire how long the complaint has lasted, some will tell you many winters, others, that they have never been quite right for many years. They have tried various treatment with temporary effect; but on the whole lose ground, and are unfit for active duty. The heart becomes oppressed and dilated, and they die eventually either from the supervention of acute bronchitis, or from dropsy; or if beyond the meridian of life, not unfrequently in a few years, they become consumptive. Dr. Thompson proceeded to notice the remedial treatment recommended by authors, and to show that the results were too often unsatisfactory. Antimony given alone is not altogether useless; but it is inadequate, and may be carried to such an extent as to injure the constitution, without permanently improving the condition of the tubes. Counter-irritation, although strongly recommended, produces only temporary advantage, and superadds to a trying malady a painful annoyance. Acids check expectoration, and often occasion tightness of chest. Opiates, so often given to allay the incidental cough, not infrequently induce severe pleurodyne. The plan which Dr. Thompson first adopted, some years ago, he has, with certain modifications, very extensively employed at the Hospital for Consumption and Diseases of the Lungs, as well as in private practice, and the results have been so gratifying, as to make him anxious to communicate them to the Society. It consisted mainly in establishing on the bronchial tubes, gently, but rather rapidly, the influence of mercury. Calomel is undesirable, since if given freely it will frequently salivate, and its discontinuance be required before the bronchial condition is materially

modified; but a single grain of blue pill, given thrice a day for a short period, and subsequently twice or even once daily, accomplishes the object often without producing soreness of the gums. Antimony proves a valuable auxiliary, and enables us to effect our purpose with a smaller quantity of mercury than would otherwise be requisite, and the addition of an anodyne is useful both in moderating the cough and making the stomach more tolerant of the treatment. The formula which Dr. Thompson is accustomed to employ consists of blue pill, half a scruple; antimonio-tartrate of potass, one grain; extract of conium, one scruple, divided into eight pills. The duration of treatment varies with the severity of the disease, and the susceptibility of the patient; but it is often sufficient to administer one pill thrice daily for four days, then twice daily for four days, and afterwards every night for a week. Under this treatment, the sonorous rhonchus usually disappears in a few days, or becomes audible only when the patient takes a deep inspiration, and the expectoration is rendered less tenacious and more opaque. When the breathing becomes comparatively easy, and the only rhonchus heard is the mucous, the mercurial pill may be given less frequently, and ipecacuanha, or, in debilitated subjects, compound squill pill, substituted for antimony. When all rhonchus has disappeared, some roughness of respiratory murmur is often observable, and till this is removed the mercury must not be suspended, or a relapse would be probable. An occasional purgative may be advantageously employed, and when the mercury is discontinued, iodide of potassium is often of value in establishing a healthy condition of the bronchial membrane. Dr. Thompson gave several instances of the successful employment of his plan of treatment. One, in a gentleman between seventy and eighty years of age, in whom the heart was involved, and dropsy threatened; another, in a young man, who, in consequence of chronic bronchitis, associated with peculiar nervous susceptibility, suffered from distressing paroxysms of asthma, night after night, an hour or two after retiring to rest. He did not attempt to specify all the variations of treatment which the modifications of individual cases might require, but urged that the principle of management was of wide application, aiming to substitute a curative for a palliative plan, and suggested that by changing the condition of the bronchial tubes, and rendering them tolerant even of our variable climate, it might save many individuals, now subject to bronchial attacks, every winter from the evil of annual expatriation.—*Lancet*, Jan. 16th, 1847.

20. *Microscopic Researches on the Absorption of Pus*.—DR. MÜHLBAUER has given the particulars of a case which are interesting in relation to the disputed question regarding the possibility of the reabsorption of pus into the blood-vessels. The fact that in cases where suppurating surfaces exist, deposits of purulent matter in the substance of organs, and the cavities of joints, without preceding inflammation of these parts, do frequently take place, is undoubted: and the inference that these deposits are effected through the agency of the blood-vessels conveying the elements of pus from parts where they have been formed, and discharging them in the distant places, seems quite natural, but is commonly opposed by the apparently insurmountable difficulty presented by the large size of the pus corpuscles, compared with the calibres of the minute capillary vessels into which they must pass if re-absorbed, and the non-existence of any demonstrable apertures in the walls of these vessels through which the corpuscles might be supposed to make their way. In Dr. Mühlbauer's case, a soldier who had several abscesses of the nature of carbuncle about his body, died, and when examined, there was found in the cavities of his heart a small quantity of thin fluid blood, having a dirty-brownish red colour, and causing a tingling sensation when rubbed between the fingers. Examined beneath the microscope, there was discovered, besides blood-corpuscles, a considerable quantity of large granulated corpuscles, presenting all the characters of ordinary pus-corpuscles, and like these being rendered transparent by treatment with acetic acid, whereupon a cup-shaped nucleus in each was brought into view. Compared with the quantity of blood-corpuscles they were in the proportion of about 1 to 8. The blood generally was decomposed (an effect which invariably attends the mixture of pus with blood out of the body). Several metastatic abscesses were found in the lungs; and the kidneys were degenerated

into a yellowish-red homogeneous mass.—*Lond. Med. Gaz.*, May, 1846, from *Schmidt's Jahrbücher*, Heft ii. 1845.

21. *Mercurial Ointment in Variola*.—M. BRIQUET says that it is impossible to estimate too highly the utility of the mask of mercurial ointment, rendered solid by means of starch powder, and applied once or twice a day. A thick layer of this preparation should be spread with the fingers on the forehead, cheeks, eyelids, ears, &c. Under this application the pustules in these parts abort; the eyes are preserved; the horrible swellings of the face, nose, and lips, so common in confluent small-pox, are prevented, and the patient is refreshed by each application of the ointment. It is truly a precious remedy, not only as a means of preventing cicatrices, but as a safeguard to the eyes, while it diminishes the smarting pains so often experienced.—*Annales de Thérapeutique*.

22. *Rupture of Lateral Sinus of Dura Mater*.—Dr. CHARLES BELL exhibited to the Manchester Pathological Society a portion of dura mater, in which the right lateral sinus had burst, causing instantaneous death. The ruptured opening which formed an irregular slit in the sinus, in a slightly oblique direction from above downward and from within outward, was situated midway betwixt the torcular heerophili and the jugular fossa. About ten ounces of dark fluid venous blood had escaped into the arachnoid cavity; it was most abundant over the right hemisphere and at the base of the brain. The brain and its membranes, except the lacerated part, were most healthy, as also the arteries at its base. The heart with its valves was as sound as a child's; and every other organ presented the healthiest appearance.

Dr. B., after pointing out this as a very rare lesion, since in all his experience he had not seen a single instance of this kind before, directed attention to the suddenness of the death resulting from it. The man, Thomas Morrice, a stout, strong, and hale labourer, aged 62 years, who had never complained of any indisposition, after having eaten a hearty dinner, resumed his work as usual, and shortly afterwards, whilst wheeling a barrow, dropped down senseless, drew a deep breath, and instantaneously ceased to live. On careful examination of the lacerated part, the rupture appeared attributable to atrophy of the fibres of the dura mater where the laceration took place; whereby the parietes of the sinus were so much weakened, as to have been no longer able to resist the pressure of the blood in a moment of congestion.—*Lond. Med. Gaz.*, Jan. 1847.

23. *Tubercles in Bones*.—Dr. WATTS communicated to the Manchester Pathological Society a case of tubercle in the cancellated structure of the bones, which he illustrated by a series of drawings.

The patient, a pale-looking, badly grown, strumous boy, 16 years of age, who came under treatment for dropsy of the belly and anasarca, died gradually exhausted with hectic fever. He had no symptom which could have revealed the existence of the disease found on examination after death.

The cavities of the chest and belly contained much serous fluid. The peritoneum was everywhere thickened, lead-coloured, and studded over with tubercles. The glands of the mesentery were enlarged and tuberculous. There was an immense abscess, containing four pints of curdy pus, situated on each side and in front of the spine, which was here denuded of periosteum. The kidneys were enlarged and pale. The testes were small, and had not passed out of the abdomen. Very little tubercle obtained in the lungs, merely a few gray granulations. There was a cicatrix on the inner aspect of the left shoulder, where an abscess had opened two years previously, which, after discharging matter for some time, healed. The boy had not lately complained of pain in this part. On opening the joint, pus escaped; the articulating surface of the humerus was rough from being denuded of its usual smooth covering. The section exposed to view a most perfect specimen of yellow tubercles in the cancellated structure of the head and neck of the bone. The cancellated substance was deeply congested with blood, intensely red, and slightly, perhaps, softer than in its healthiest condition; in the midst of the red cancellæ were seen the straw-coloured tubercles, with irregular-

shaped but clearly-defined margins. Similar tubercles were also found in the diseased lumbar vertebræ.

These tubercles presented essentially the same microscopical appearance as yellow pulmonary tubercle. They consisted of remarkably well-developed tubercle concretions and granular matters, in which were seen here and there a few oil-globules, and everywhere innumerable gaseous bubbles of the most minute size, like mere points, probably the product of chemical changes.

The concretions were perfect specimens of their kind, and withal more plump than those usually met with in the tubercle of lung. Magnified 800 diameters, they resembled fragments of gum-arabic, slightly softened in water. They were faintly yellow, and so far transparent that, on mixing a portion of the tubercle in water, the outlines of the concretions deeper in the streams could be seen through those swimming above them.

Dr. Watts remarked, that the formation of tubercle in the bones had been doubted by many, and it is only a few years ago that the question was satisfactorily determined in the affirmative. The French and German pathologists first established the truth of its existence, but published no account of its microscopical appearances. The present case is therefore the more interesting as it further confirms the fact by the evidence exposed by the microscope.

Respecting the manner in which tubercles form in the osseous structures, he was inclined to think there would be found a series of cases, the present serving as the type, in which the morbid product is deposited in portions of cancellated structure already in a state of disease, analogous in some of its prominent features to inflammation, though differing therefrom in other particulars. The cancellated structure becomes, in these instances, deeply congested with blood, its nutrition is disturbed, it apparently has some tendency to softening, and a badly vitalized germ, in physical properties resembling coagulable lymph, is exuded into spots, and forms into tubercle, all of which may happen without the excess of heat, or manifestation of pain, usually attending inflammation. Yet this should not be regarded as any objection to the possible formation of these tubercles in another series of cases, in complication or coincidently with the most unmistakeable phenomena of the inflammatory process.—*Ibid.*

24. *On Hysterical Affections.*—M. GENDRIN has recently addressed to the Academy of Medicine the conclusions which he has drawn from some investigations that he has made on the symptoms and therapeutics of hysterical disease. These conclusions are summed up in the following propositions. 1st. Hysteria is not characterized by spasmodic paroxysms reproduced at intervals, but it is a continuous disease, which always presents, as well during the intervals as during the paroxysms, symptoms which sufficiently characterize it. 2dly. In all cases of hysteria, without exception, from the commencement to the termination of the affection, there exists a degree of either general or partial insensibility. In its mildest form this anæsthesia occupies only certain portions of the skin, but in its most severe degree it may affect the tegumentary surface of the body as well as the mucous membranes, so far as they are open to our means of investigation. It is not very rare for this insensibility to exist in the organs of sense, and some patients lose all consciousness of the position of their limbs and of the acts of locomotion. 3dly. The insensibility does not exist in a ratio proportioned to the intensity, frequency, or character of the paroxysms. 4thly. Most patients in the state of anæsthesia, experience more or less, at least at the moment of the paroxysm, pain, or increase of sensibility at some point, and this circumscribed hyperæsthesia is most frequently the immediate cause of the attack, and furnishes the means to bring about its termination. 5thly. Paralysis, with flaccidity or with contraction, is a very frequent symptom during the continuance of the paroxysm as well as during the intervals. This paralysis, internal, or external, of the bladder, rectum, or limbs, may last for months without the slightest danger, and has given rise to many dangerous errors in diagnosis. 6thly. It is erroneous to attribute invariably to hysteria all spasmodic attacks accompanied with the sensation of the globus hystericus. There are two other forms of the attack which are very frequent, and which often coincide or alternate with hysteric suffocation; these are the paroxysms of excitement or mania. 7thly. All those apparently marvel-

lous peculiarities which may reasonably be admitted into the category of the accidents produced by animal magnetism, are spontaneously produced in hysteria. Thus, that insensibility which permits persons to suffer operations by the canterbury or the knife without any sense of pain, is observed in all, even the mild, forms of hysteria. 8thly. The anomalous state of the nervous energy in hysterical patients is shown by the immediate effect of medicines. Those patients who have not increased sensibility of the digestive tube can bear enormous doses of opium, from 10 to 17 grains, without any narcotic or poisonous effect. But if they do labour under this hyperæsthesia of the digestive tube, opium, in whatever way it is administered, causes vomiting, but has no narcotic effect.

A few observations lead M. G. to think that these patients can also bear large doses of digitalis and belladonna.

9thly. Of all the therapeutic agents, there is none which appears to M. G. more appropriate than opium in large doses, commencing with five grains daily, which may be gradually increased to ten or twelve before it has any narcotic effect. As soon as it exerts its hypnotic influence, all the symptoms of hysteria diminish, and it is then necessary to lessen the dose. By this treatment, the author cured more than the half of his hysterical cases.

10thly. M. G. also found sulphuric ether of much benefit in large doses; to obtain its beneficial effects it was necessary to administer it in doses of from five drachms to an ounce daily.—*Monthly Journ. Med. Sci.*, Jan. 1847, from *Archives Gén. de Méd.*, Sept. 1846.

25. *Remedy for Toothache*.—M. COTTÉREAU recommends, for the alleviation of toothache, an ethereal solution of camphor, containing ammonia. Sulphuric ether is saturated in the cold with camphor, and two or three drops of solution of ammonia are added. In this way an ammoniacal camphorated ether is obtained, which should be kept in a well-stopped bottle. This liquid acts as a cautery to carious teeth, and it immediately relieves toothache. M. Cottéreau states that he has employed it for four years, and its application has always been attended with success. The rapid evaporation of the ether causes a slight deposit of camphor in the dental cavity, and thus protects the nerve from the air. The ammonia has a cauterizing action.—*Lond. Med. Gaz.*, Oct. 23, 1846.

26. *Anatomy of Pneumonia in Infants*. By Prof. TROUSSEAU.—In children we never observe genuine peripneumony, but a catarrhal or spurious inflammation of the lung, always preceded by capillary bronchitis. Catarrh pre-exists, accompanies, and often survives their pneumonia, giving to its progress, duration, or return peculiar characters which distinguish it from the same disease in the adult. The first form which we meet with is one in which numerous isolated nodi present well circumscribed indurations in the inferior and middle lobes of the respiratory viscera; this is the lobular-disseminated pneumonia;—in another variation the nodi are larger, and equal in size to small almonds or hazelnuts, constituting the pneumonia lobularis agminata. In a third shape, pneumonia lobularis pseudolobaris, the largest indurations unite, and occupy the greater part of a lobe, thus stimulating true pneumonia of the adult, from which it is different in this respect, that the inflamed mass is formed of lobules which have become the seat of inflammation at successive and irregular periods, and which, therefore, present, in their mottled granitic aspect, shades of colour by which the various epochs of successive inflammation can be more or less accurately judged. As to the real lobar-pneumonia, it is extremely rare in children. In the adult, during the progress of acute pulmonary inflammation, you will observe, from day to day, the expectoration change in colour from a rusty brown to a citrine hue, and again to a dark shade; on dissection, in such cases, you will find the lung at various stages of inflammation, and, by the difference of colour of the several parts of the viscus, you will be enabled to account for the changes observed previously in the expectoration, by the daily and progressive invasion of phlogosis. You will find in the same lobe yellowish portions infiltrated with pus, in immediate contact with parts in a state of red hepatization, from which they are distinguished by a sudden change of colour, almost without transition. Again, in the immediate vicinity, you will find simple congestion, and even apoplectic nuclei, well characterized by

their special hue. The lung of the adult is, therefore, inflamed *en masse*; all its elements are at the same time the seat of anatomical changes. It is not so in the infant; the lungs of the child are affected in detail, and the lobules, being separately diseased, give to the section the granitic aspect noticed above, and which we have attempted to explain. On the surface of the division you will occasionally observe numerous drops of pus issuing from what appears to be dilated bronchi, but in reality from little abscesses resulting from the destruction of lobules in a state of suppuration. These are real *vomicæ*, which are as common in childhood, as they are rare in the adult. On the margin of the diseased lung we also sometimes find transparent yellowish spots, of the consistence of jelly, and resembling, in colour, the agate or carnelian stone; in these spots hardly any trace of parenchyma is discernible, and when thrown into the water they sink to the bottom. The *fœtal* state, to which MM. Legendre and Bailly have lately directed their attention, appears to us to have received an undue degree of importance. We cannot believe that this state continues so late as the tenth or twelfth year—a period too far removed from birth to permit the production of the *état fœtal* by the very simple mechanism pointed out by the authors.

During pneumonia in the adult, the pleuræ always, or almost always, participate in the inflammation; and false membranes are very generally met with on the surface of the diseased lung. In infancy, on the contrary, this complication is extremely rare; it is equally uncommon in the aged, on account of the catarrhal nature of the malady at both these extreme periods of human life. The bronchi are usually found red and inflamed, their mucous membrane thickened, and slight dilatations as after whooping-cough; accidentally, even small lacerations may be seen on their surface. The lymphatic ganglia are also frequently the seat of tumefaction, and complete the series of anatomical changes which are produced in the respiratory viscera of children by the presence of pneumonia.—*Med. Times*, Dec. 26, 1846.

27. *Whooping-Cough and Exanthemata.* By Dr. VOLZ.—There are many reasons why whooping-cough should not be classed among the neuroses, but rather among the exanthemata. For instance, its epidemic nature, its contagious character, its attraction to children, its occurring only once in a lifetime, its relationship to measles, its regular progress, and its uninterrupted career in the individual, are all points in which it has as little resemblance to a catarrh as it has to convulsions, but which show a great similitude between whooping-cough and acute exanthemata. That it is seldom that any eruption is perceived in whooping-cough is no proof to the contrary, since, in the other epidemic exanthemata, cases frequently occur where there is no external eruption, but in which, nevertheless, the nature of the disease is unquestionable; and in others, again, the eruption is so transient that it is frequently not observed. Since the time of Autenrieth, the relationship between whooping-cough and the other acute epidemic contagious exanthemata has been suspected. Neumann (*Krankheit des Mensch*, Bd. i. s. 648) has seen whooping-cough accompanied by an eruption resembling measles in form, but having the colour of scarlatina, and appearing chiefly on the breast and arms. This eruption is rare, but Volz also has seen something of the same kind in whooping-cough. Besides the ordinary morbid appearances, Volz mentions certain changes on the mucous membrane of the intestinal canal; these are observed chiefly in the glands of that organ, and are of the exudative kind, and such as are considered by Rokitsky as peculiar to certain pathological processes, among which are included the exanthemata. If this peculiar alteration in the glandular apparatus of the intestinal mucous membrane is found not only in scarlatina, measles, cholera, and typhus, but also in gangrene, purulent deposits, &c., then it is evident that it is not the characteristic of a specific disease, but of some abnormal changes in the blood. Whooping-cough is therefore to be classed among the diseases produced by an abnormal change in the blood, and from the account of its occurrence as a contagious epidemic, and the numerous coincidences between it and scarlatina or measles, as already mentioned, it is improper that it should invariably be classed among the neuroses. With regard to the treatment, Volz found tannin and nitrate of silver each useful in a few cases, in alleviating the violence and frequency of the paroxysms, but in general these remedies were of no avail; belladonna was

found most uniformly of use.—*Monthly Journ. Med. Sci.*, Dec. 1846, from *Häser's Archiv.*, Bd. iv. Hft. 3.

28. *Infantile Pleurisy*.—Mr. CRISP in a paper read before the South London Medical Society, (and published in *Lancet*, Jan. 16th, 1847,) after reviewing the opinions of Underwood, Maunsel, Evanson, West, Baron and Billard, on this disease, referred to 41 post-mortem examinations he had himself made of children under two years of age (the greater number under 12 months). In 6 cases inflammation of the pleura had been found, and in 5 of these it was combined with pneumonia; in one case it was complicated with pericarditis, in another with peritonitis and hydrocephalus, and in the sixth case the pleuræ alone appeared to be inflamed. Although the character of symptoms in the adult render the disease easily recognized, even without the aid of auscultatory signs, and with these last lead to a pretty certain knowledge of the boundaries and other nice points of diagnosis, yet it must be admitted that in some instances it is more difficult of detection, and is especially likely to escape observation in infantile life, where many valuable signs, obtainable in more advanced life, are wanting. The symptoms observed by the author in infantile pleuritis were—great restlessness, violent screaming at the onset of the attack, very quick pulse, hot and dry skin, glassy eye, dry cough (this not frequent), *the head thrown back*, and great apparent pain on placing the child erect. On auscultation a dry rubbing sound was heard. Many of these signs may be present in other diseases, as pneumonia, increasing the difficulty of diagnosis; but when the dry rubbing sound is heard, with frequent screaming, and an apparent increase of pain on elevating the head, the existence of pleurisy is pretty clearly indicated. If, in addition, mucous and crepitating rales are heard, and a small portion of the serous membrane only is inflamed, the diagnosis is more obscure; but it may be recognized by careful investigation. The author then narrated four cases he had seen of infants in whom, although the disease was unsuspected during life, signs of pleuritic inflammation were found on a post-mortem examination. In another child, æt. 10 months, after indisposition for several days, the child was seized with quick breathing, short cough, hot dry skin, quick pulse, and inability to cry aloud (although two days previously it had screamed violently at intervals, as if in pain); a rubbing sound was heard on both sides, especially on the right of chest; the head was thrown back, and the erect position increased the pain. Notwithstanding depletion, and the exhibition of calomel and antimony every four hours, the child died; and on examination a large deposit of straw-coloured lymph was found on the right pulmonary pleura, in parts one-sixth of an inch thick, with slight adhesions to the costal pleura, but without fluid. Lymph less abundant was found on the left side, with red hepatization of upper portion of the lung. In another child, æt. four months, the symptoms commenced suddenly with a shrill scream, which continued at intervals for nearly twenty hours. The symptoms, on being seen by the author, were hot skin, quick pulse, short dry cough, very quick breathing, glassy eyes, head thrown back, and pain much increased when the head was moved forward; dry rubbing sound indistinctly heard over sides of the chest. Antimonials, calomel, and local depletion, were ordered, with temporary relief; but the symptoms gradually became more unfavourable, and the child died. On examination, both pulmonary pleuræ were found covered with straw-coloured lymph, uniting these to the costal pleuræ; the surface of the pericardium was also coated with lymph, but there was no fluid in this or in the pleural cavities. Lungs congested posteriorly, but healthy in structure, as were the heart and abdominal viscera. The disease in the two last cases was detected during life.

The author considered it fortunate that the only diseases with which infantile pleurisy could be confounded, viz., pneumonia and pericarditis, required the same treatment; but would suggest a recourse to more active measures in pleuritis, if seen in the first stage, than in pneumonia; and if the case is seen early, there is no reason why the disease should not be arrested, and the little patients cured. He had seen two cases lately, in which, from local and general symptoms, pleuritis in an early stage probably existed, and the children convalesced under warm baths, leeches, calomel, and antimony. The author concluded by stating that his object in the present communication had been to show—1stly. That infantile pleuritis is

not so rare a disease as is generally believed. 2dly. That when inflammation is confined chiefly to the pleura, it may be easily recognized; and that, even when complicated with pneumonia, attention to the auscultatory signs may enable us to detect its existence. 3dly. That when accompanied by pneumonia, or occurring alone, it is a disease of great danger; and that, unless remedies are early applied, it is but little, if at all, amenable to medical treatment.—*Lond. Med. Gaz.*, Dec. 1846.

29. *Abscess of the Brain in a Child.*—Mr. YOUNG was called, on the night of 27th Dec. last, to attend a child 8 months of age. He found the little patient convulsed, though not violently so; the pupils were contracted, but acted on the application of the light of a candle; the pulse 96. There was no paralysis. The child had six teeth; one had been cut the day previously. The gums were not swollen, nor did there appear to be a tooth near the surface. The child had vomited freely the bread-and-milk taken that evening. He appeared perfectly sensible. The remedies employed were of no avail, and the child sank one hour after the first convulsion. The history of the case gave no evidence of previous disease; but there was a mark on the temple, the result of a wound received accidentally, a fortnight before, from a cutting instrument, but which appeared to have given him no inconvenience whatever, not a single symptom even of irritation having been since observed. He had commenced teething early, vomiting attending the cutting of each tooth. The body was examined thirty-six hours after death. The child was considerably above the average size, and well-proportioned. The limbs were not stiffened; the coverings of the brain were natural. On slicing away the superior left hemisphere, an abscess was discovered, of a triangular shape, the apex corresponding to the external wound. It extended to the lateral ventricle, and contained at least two ounces of pus. The surrounding medullary matter was softened and disorganized.

The case was related first as a remarkable instance of extensive disorganization of the brain, without previous symptoms; and secondly, as a rare example of such extensive disease in so young a patient.—*Lancet*, Jan. 16th, 1847.

30. *On the Employment of Nux Vomica in the Treatment of St. Vitus' Dance.*—M. TROUSSEAU, in a memoir on the employment of the preparations of nux vomica in the treatment of St. Vitus' dance, stated that Messrs. Lejeune, Niemann, and Caze-nave had cited some isolated facts, but that Messrs. Fouilhoux and Rougier of Lyons, and himself, had clearly reduced this treatment to practice. Public experiments were made at the same time at Lyons and at Paris, in the Necker Hospital. M. Trousseau was led to employ this treatment, from two reasons: first, because in St. Vitus' dance there is almost always incomplete paralysis of one side of the body. Secondly, because the preparations of nux vomica inducing tonic tetanic contractions, there was reason to hope that the nervous modification determined by strychnine might be substituted for that accompanying chorea.

Thirteen patients were treated by him. Ten with complete success. In one case the disease was aggravated, in another there was only a slight amendment, and the thirteenth terminated in death. The amelioration manifested itself usually after eight or ten days of treatment. The cure was completed in fifteen days in some cases, but most frequently in a month. M. Trousseau limited himself to the report of only two observations. One was a child of twelve years, addicted to masturbation, and in which the motion was so excessive that it was necessary to confine the subject naked in a room, the floor and sides of which were lined with mattresses. The cure was effected in the space of five weeks. The author has strongly insisted on the mode of preparation and administration of the remedy. He condemns the extract, which is often badly prepared, and is moreover easily injured when converted into pills. He likewise excludes strychnine, which, as it is soluble only in 6,400 times its weight of water, may be regarded as almost insoluble and consequently exposes to risks and mistakes. He adopts exclusively the sulphate of strychnine dissolved in simple syrup, in the proportion of $\frac{5}{8}$ grain to 3½ ounces of the syrup. He gives at first, 2½ dr. of the syrup (from $\frac{1}{2}$ to 1·10 of a grain of the salt of strychnine) in four doses at intervals of four hours. Every day he augments the dose of the syrup by 1½ dr. until an itching of the head and

slight muscular stiffness manifests itself. It is always necessary to carry it to this extent. The dose of the syrup is increased or diminished according to the effect. When the chorea is almost cured, the same dose is continued for some days; it is then diminished and finally stopt entirely, when there remains only the slight contortions which the patients often retain. M. Trousseau regards the sulph. of strychnine as the principal remedy. He does not, however, neglect the symptoms. He bleeds if there is plethora. If chlorosis is connected with chorea, the martial preparations are used, and antispasmodics in cases of hysteria.—*Southern Journal of Medicine and Pharmacy*, March 1847, from *Archives Générales*, Dec. 1846.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

31. *Amputation at the Shoulder Joint for Axillary Aneurism.*—The following interesting example of this is recorded by Prof. SYME, in the *Monthly Journal of Med. Sci.*, Dec. 1846.

The patient, a stout, square made man, of short stature, fifty years of age, while, as he supposed, in perfectly good health, about a fortnight before, when getting hastily off a carriage, had made a false step, and nearly fallen backwards. In the effort to prevent this, and to secure his hat, he was conscious of throwing his left arm upwards and backwards with great force. No inconvenience was noticed subsequently, until a few days after, when he felt a difficulty in keeping his arm close to the chest; and upon searching for the cause of this, discovered a swelling in the armpit, which throbbed, or pulsated. He immediately applied to Dr. Cunningham, who, recognizing an axillary aneurism, proposed a consultation. When Prof. SYME saw the patient, the aneurism was so large as to fill the axilla, but quite circumscribed, and distinctly pulsating. The pulse, at the wrist of the affected limb, was rather weaker than in the other arm. The complexion and general aspect of the patient were such as are usually supposed to denote disease of the heart; the pulse was irregularly intermittent, and the action of the heart was perceived over a larger extent than could be considered natural. But it was stated that there had been no alteration for a long while in the appearance of the patient, or in his ability for exertion, which was represented to be that of the most perfect health, and Mr. S. could not detect any distinct evidence of serious organic alteration in the heart. Though the case could not be considered as one favourable for the operation, Prof. S. considered, nevertheless, that the patient ought not to be refused the chance which it afforded of escape from the fatal result of the disease.

The patient removed at once to Edinburgh, for the purpose of submitting to the operation, and to prepare him for it, he was confined to bed on the antiphlogistic regimen.

On the day of his arrival, Prof. S. remarked that the pulse throughout the affected arm had become very weak; and on the following day it could not be detected either at the wrist or in the tumour, which, during the few days that had elapsed since Prof. S. first saw it, had acquired a great increase of size. The prospect of spontaneous coagulation derived from this change, would have made him delay the operation, even if all other circumstances had been favourable to its performance. But the pulse became very quick; the arm swelled to a large size from œdematous effusion; and excessive pain was felt throughout the limb. On the following day, another unpleasant symptom was presented by a diffused blush over the forearm, of that peculiar hue which is wont to precede mortification, resulting from the inflammation of parts imperfectly supplied with blood. Small doses of antimonial wine, with the solution of muriate of morphia, were administered internally, to allay the general excitement; and soothing lotions, containing opium, with acetate of lead, were applied to the seat of pain. On the morning of the 13th, the arm, from the elbow downwards, suddenly became cold and devoid of sensation. The redness, leaving this part, ascended towards the shoulder, the pulse could hardly be counted, and there was every sign of speedy sinking under the violence of constitutional reaction.

During several succeeding days this apparently hopeless condition was observed

to assume gradually a more promising character. The arm which, from the time it became cold, had been simply wrapped in flannel, regained its proper temperature; the redness of the skin disappeared; the pain in a great measure subsided; and the patient resumed the state of tranquillity that had existed previously. The swelling of the arm also, which had attained an enormous extent, especially towards the axilla and shoulder, which it raised almost to the patient's ear, and stretched strangely outwards from his side, sustained a marked diminution.

In consideration of these encouraging changes, the hope of a spontaneous cure was again entertained, and the pulsation, which could be perceived only by the ear, was ascertained to be confined to an extent so small, that there could be no doubt as to coagulation having taken place throughout a large portion of the cavity. But on the back part of the shoulder, where the skin had been extremely distended, when the swelling was at its height, and had not since either regained its natural consistence, or lost the purple colour then assumed, there now began to be presented the appearance of a slough. It was hoped that this might be the effect of pressure limited to the integuments, and separation of the dead part was anxiously watched, with a view to ascertain whether it was confined to the surface, or extended to the cavity. In the course of a short time, the worst fears were verified by a gradual enlargement of the aperture, exposing to view a mass of coagulum and sloughy muscular substance, through which arterial blood began to ooze, and stain the patient's shirt.

On the 16th of August, to prevent the obviously impending hemorrhage, ligature of the artery being quite out of the question, as the arm, though its temperature was restored, had not regained either sensation or voluntary motion, and, independently of all other objections to this operation under existing circumstances, would certainly have been deprived by it of the scanty vital power still remaining, Prof. S. proposed amputation at the shoulder joint, which met with approval, and as there was no objection on the part of the patient, proceeded without delay to this formidable undertaking.

The patient having been brought to the edge of his bed, Prof. S. made an incision from the acromion downwards and backwards through the sloughy aperture, and, from the same point, another downwards and forwards, so as to join their terminations at the lower part of the axilla, and form two nearly equal flaps, which, being held aside, allowed the disarticulation to be readily completed. As pressure could not be effected upon the vessel above the clavicle, in consequence of its elevation by the tumour, a fearful gush of blood issued from the cavity of the aneurism when laid open, but was instantly arrested by Dr. Duncan, who placed his thumb upon the part from which he felt the jet proceed, and retained it there, until by the application of eight or ten ligatures, Prof. S. prevented hemorrhage from the smaller vessels. Upon examining the state of the axillary artery, we found no distinct orifice, but merely a funnel-shaped expansion, where it communicated with the aneurism. Prof. S. therefore made an incision from the upper extremity of the wound quite to the clavicle, in the direction of the vessel, cut through the tendon of the pectoralis minor, and, by careful dissection of the condensed textures in which it lay imbedded, exposed a sufficient portion of the artery for safely applying a ligature. This having been done, the edges of the wound were brought together, and retained by stitches, with the assistance of compresses and a bandage.

The patient bore the operation well, made no particular complaint after it, and steadily advanced towards recovery, although the separation of sloughs was not completed, until the end of a fortnight. But while this process was gradually accomplished, the cavity rapidly contracted, so that when the whole of the dead parts were cast off, it was nearly closed. The ligature came away on the 15th of September, and the patient then returned to Glasgow, where he was soon afterwards able to resume the duties of a public situation, which he holds in that city.

32. *Amputation at the Hip-Joint.* MR. J. WHIPPLE records in the *Lancet*, (Dec. 26th, 1846,) a successful case of amputation at the hip-joint, in a man 31 years of age, labouring under extensive disease of the knee-joint.

33. *Successful Extirpation of a Polypous Tumour of the Larynx.* By Prof. EHR-

MANN, of Strasburg.—Caroline M., ætat. 33, the mother of two children, had always enjoyed excellent health till about four years ago, when, in the autumn of 1840, it was first observed by herself, and those around her, that there was a slight change in her voice, which became rough and hoarse.

This change was accompanied by no pain, or any difficulty in articulation or respiration. Subsequently there was nearly total aphonia; and, what was remarkable, this aphonia increased very much towards the termination of two pregnancies, and again diminished after delivery. After some time, quick respiration came to be accompanied by the sound of a valve opening and shutting alternately; and occasionally, during deglutition, some drops of liquid entered the larynx, and excited violent attacks of cough. During these attacks, the patient occasionally expectorated small portions of tissue, similar to the tumour which was subsequently removed by excision.

In the month of March, a sudden attack of dyspnœa supervened, which lasted for a short time, but recurred repeatedly with violence, and was instantly induced by the slightest cough or effort of vomiting. Tracheotomy was immediately proposed by M. E., but a delay of nearly two hours took place, from the entreaties of the friends of the patient; but the symptoms having increased during that time to an alarming extent, their consent was at length obtained.

The crico-thyroid membrane, the cricoid cartilage, and the two first rings of the trachea, were divided, and a tube introduced, with instant relief to the patient.

After forty-eight hours, an incision was made from opposite the os hyoides downwards, along the mesial line, to join the former incision. The two sides of the larynx were then separated by the knife, and the cavity being freed from the blood which had collected in it during the operation, the polypous excrescence was discovered attached to the left inferior ligament of the glottis, when it was seized with a pair of forceps, and excised at its base. The tumour was of the form of a small cauliflower, presenting here and there rounded and fleshy granulations on its surface. Its precise measurements are not stated; but, from a figure which M. E. gives, it appears to have been about three-fourths of an inch in its longest, and half an inch in its shortest diameter.

After the operation, the edges of the wound were brought together, and the tracheotomy tube left in its place, from which it had not been removed during the operation. The tube was finally removed in two days; and, twenty-one days after the operation, the wound was entirely healed, and the patient made a perfect recovery, with this exception that the aphonia remained.

M. E. remarks that the hoarseness and roughness of voice are the first symptoms which show themselves in the course of this disease, amounting, after some time, to a complete loss of voice. The peculiar cough, similar to that of croup, generally accompanies these other symptoms. The sensation of the foreign body in the larynx during expectoration and deglutition, is sufficiently characteristic. Dyspnœa is an invariable symptom: it may commence insensibly, and increase gradually, or appear suddenly, accompanied by an insufferable feeling of suffocation. The only sign, however, which can be looked on as certain, is the expulsion, in coughing, of particles of the substance of the tumour; or when, by means of a small mirror, we can see the tumour engorged in the glottis, or feel it with the point of the finger.—*Monthly Journ. Med. Sci.*, Dec. 1846.

34. *Compression in Aneurism.*—The *Dublin Medical Press* (Dec. 1846, Jan. 1847,) contains an elaborate and very interesting paper by Dr. BELLINGHAM, on the employment of compression for the cure of aneurism. The author gives the following summary of the most material points bearing upon this method of treatment:—

1. The arteries to which compression is applicable being far more frequently the subject of aneurism than those to which it is inapplicable, compression is calculated to supersede the ligature in the great majority of cases.

2. The cure of aneurism by compression upon the artery between the aneurismal sac and the heart, according to the rules laid down here, is accomplished by the gradual deposition of the fibrine of the blood in the sac, until both the latter and the artery at the part are completely filled. The process is in fact exactly similar to that by which nature effects a spontaneous cure of aneurism.

3. Such an amount of pressure as would cause inflammation and adhesion between the opposite sides of the artery at the point compressed is never required.

4. The pressure should not be so great as to interrupt the circulation in the artery at the point compressed; an essential agent in the cure being that a current of blood should pass through the sac.

5. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument, and in many instances the pressure can be maintained by the patient himself.

6. The treatment of aneurism by compression does not involve the slightest risk to the patient, and if persevered in cannot fail of effecting a cure.

7. A cure of aneurism effected by compression, according to the rules laid down here, must necessarily be permanent; and in every case in which a cure has been accomplished, the patients have remained well subsequently.

8. The femoral artery remains pervious after the cure at the point at which the pressure had been applied, and no morbid change of any kind is to be detected in either the artery or vein at the site of the compression.

9. When a cure is effected by compression, the vessel is obliterated only at the seat of the aneurism, and the artery at this part is eventually converted into an impervious ligamentous band.

10. Compression effects the cure of aneurism by more simple and safer means than the ligature, while it is applicable to a number of cases in which the operation is contra-indicated or inadmissible.

11. Compression is not necessarily a more tedious or more painful method of treating aneurism than the ligature, while it is much more certain, more likely to be permanent, and is free from all danger.

12. Compression, according to the rules laid down here, has little analogy with the old method which went by this name; and in fact has no greater resemblance to it than the Hunterian operation had to the operation for aneurism which it superseded.

35. *Case of Tracheotomy.*—The following very interesting case was communicated to the surgical society of Ireland, by Dr. ORR.

For many months the patient, a young woman of about twenty-five years of age, had suffered from symptoms indicating chronic laryngitis which received no relief from medicine. A suspicion that the lungs were affected caused an unwillingness to have recourse to an operation, but the evidence of disease in those organs being obscure, while the severity of the laryngeal symptoms increased, ulceration too having, as well as could be determined by the touch, evidently encroached considerably on the epiglottis, tracheotomy was performed November 1, 1844.

The relief was complete and immediate, not the slightest bad symptom occurred to interrupt her recovery, she regained flesh and strength, but the removal or closing of the tube brought on feelings of impending suffocation. During her stay in the hospital after the operation, which continued for some months, she expectorated two whitish hard bodies the size of a lemon-seed, but as she threw them away without showing them nothing could be determined as to their nature. The opening in the trachea showed a disposition to close, and Dr. O. had on two occasions slightly to divide the margin to allow of the easy introduction of the tube. The wearing of this, too, after some time, seemed to cause irritation in the parts, which was relieved by touching them with a solution of nitrate of silver. After leaving hospital, she had occasional returns of the dyspnœa, which appeared to arise from getting cold, to which she was very liable; they were neither long nor violent. In April last Dr. Carte, who took an interest in the case, procured for her a tube, the edges of whose inferior opening were rounded and turned slightly in. This caused an immediate cessation of the symptoms of irritation about the trachea; she got a comfortable situation as a nurse, and as she expressed herself, was never better in her life. She continued thus till Oct. 2d.

On that day about three o'clock, while sitting at dinner, stooping suddenly to feed a dog, she felt a gush of blood issue from the opening in the throat. She immediately pressed a handkerchief to her neck, and getting on a car, came to the hospital.

The blood, which came from the orifice of the canula, was projected with force

and in jerks, and was of florid redness. It was restrained by pressure with a compress of lint by Mr. Philips, the house-surgeon, and she was seen shortly afterwards by Professors Benson and Hargrave, and Mr. Tufnell and Dr. Carte. As any attempt to remove the canula was followed by increased hemorrhage, it was plugged, compresses of lint applied over it, and pressure made by a figure of 8 bandage, crossing under the arms and over the opposite shoulders. At this time the vascular excitement seemed considerable, the face was flushed, the pulse 120, and bounding, and there was strong pulsation communicated to the tube, but the stethoscope gave no evidence as to the source of the hemorrhage, except the negative one, that there was no aneurismal tumour.

An astringent mixture, containing gallic acid and acetate of lead, was ordered.

October 3d. This morning there was some slight return of the bleeding, which was easily checked by slight pressure without removing the compresses. She expectorated with slight coughing four or five ounces of bright red coagulum. On the first occasion no blood appeared to have entered the trachea. In the evening the hemorrhage returned with great violence. It was plain that if the canula had opened any vessel by ulceration that its presence in the wound must prevent any hope of a successful termination to the case. Under these circumstances, with the advice and assistance of Dr. Benson, Dr. O.'s other colleagues being unfortunately unavoidably absent, he determined to remove the tube and supply its place with a piece of fine linen introduced like a cone, and filled afterwards with lint, which would form both an efficient plug less irritating than the silver canula, and be capable of easy removal whenever desired. With the view of controlling hemorrhage during the removal of the tube, Dr. Benson made pressure with his finger above the sternum and below the opening in the throat; as this had the effect of stopping the pulsation which was communicated to the tube, it was hoped that it might be removed with safety; but on withdrawing it about a quarter of an inch, such a gush of blood came by its side as obliged Dr. O. instantly to push it back under pain of seeing the patient perish on the instant. The compresses and bandages were reapplied, and no more hemorrhage followed.

As the stomach had become irritable, the use of the astringent mixture was discontinued, and she was directed to take ice and cold chicken broth.

October 5th. Twenty-four hours elapsed without any hemorrhage, but in the night between the 4th and 5th it returned. A consultation was held this day, but in the absence of any proof from what vessel the hemorrhage proceeded, it was not deemed advisable to undertake any operation in search of it. It was agreed to attempt the removal of the canula, which was now effected, without hemorrhage, and the aperture filled with dried sponge. Pressure was then applied as before.

It is needless to continue the particulars of the case; the bleeding returned at shorter intervals, and she early expired on the morning of the 6th, having survived the first hemorrhage eighty-six hours.

Post-mortem eight hours after death.—General appearance of the body well nourished; surface very exsanguineous.

Muscular system well developed, unusually red, especially when the cause of death is considered.

The larynx and trachea were removed with the integuments about the artificial opening, the upper portion of the sternum and the arch of the aorta and great vessels arising from it.

On proceeding to make a careful dissection of the removed parts, it was found that the loose cellular tissue which usually exists in considerable quantity about the bifurcation of the trachea and the great arteries and veins at the root of the neck was converted into a semi-cartilaginous structure matting all the parts together so as to form one apparently homogeneous mass. This being cleared away with great care, it was found that the canula had gradually worked its way behind the sternum and in front of the trachea, the rings of which were in some places slightly torn, till it reached the arteria innominata, which it had opened by ulceration almost close to its origin from the arch of the aorta. The sides of this false passage were formed by the altered semi-cartilaginous structure before alluded to. On slitting up the aorta and innominata, the opening into the latter was found to be of sufficient size to admit a goose quill, and, together with a considerable portion of

the passage made by the canula, was occupied by a firm plug of coagulum which commenced in the aorta about an inch before the origin of the innominate, and appeared to extend along the arch beyond that vessel.

Very little marks of disease were found about the larynx and epiglottis. The edge of the latter was thinned and in parts irregular, and presented depressions on its laryngeal surface, as if from the effects of ulceration. The upper part was of a yellow colour and seemingly more transparent than the lower.

There was some congestion of the lungs, chiefly the right, with old adhesions about their apices. On handling them, several firm masses of different sizes were felt, which, on being cut into, were found to consist of crude tuberculous matter.

Such is a succinct account, observed Dr. O., of this interesting case—interesting not only from its novel—I believe I may say unique—termination, but also from the important practical deductions which may be drawn from it, as well as the physiological speculations to which it may give rise.

And first as to the actual condition of the larynx at the time of the operation. There are many other affections which simulate chronic laryngitis; of these perhaps the principal are tumours pressing on the tube and hysteria. The post-mortem examination showed that the first of these affections did not exist. The second might produce many of the symptoms under which the patient laboured, and the comparatively normal state of the larynx may be pointed to as confirmatory of this opinion. That it may have assisted in aggravating the symptoms is possible, but I cannot allow that it was the sole agent in producing them. In the first place, the disease commenced after repeated attacks of bronchitis; secondly, the restoration of the uterine secretion, which was at first scanty, was not followed by the slightest amendment; thirdly, there was tenderness on pressure over the larynx, which Mr. Ryland, in his work on the Larynx and Trachea, lays down as a diagnostic difference between hysteria and chronic laryngitis; lastly, the epiglottis was examined carefully at different periods by many experienced surgeons, and not one for a moment expressed a doubt as to the gradual encroachment of the ulceration. A small portion was removed for the purpose of microscopic examination, but though differing considerably from Müller's engraving of the structure of that organ, it must be attributed to its having been kept some time in spirits, as a portion of a healthy epiglottis which had also been kept in spirits presented almost an identical appearance. The possibility of the restoration of this organ after being partly destroyed, will, I know, be denied by many, but we know that the epiglottis is capable of increased growth, as may be seen in the specimen in the Park street museum, where that organ measures two inches in length, to which Dr. Stokes has applied the term "leaf-like expansion of the epiglottis;" and if capable of this increase of growth, why may it not also be capable of reproduction? Nor do I think that the *ipse dixit* of any author, however accurate and learned, should outweigh actual observation.

The second consideration is—Did the tubercles in the lungs exist previous to the operation? There is every reason to believe they did, as their presence was strongly suspected before it was performed, and the operation in fact deferred till the last from the fear of hastening their progress: besides, since its performance, the patient never presented any more symptoms than she had previously done. If this be the case, it is a fact of practical importance to be borne in mind in weighing the propriety of an operation. If there is a chance of tubercles in an early stage not being hastened to suppuration by tracheotomy, it might extend hopes of relief when the hand is now withheld from fear of the consequences. The immunity which the patient experienced in this case I attribute to the care with which she was guarded from cold immediately after the operation.

Thirdly, we have strongly impressed on us the necessity of watching those cases in which a tube has to be worn, lest such an unhappy termination as the present should be the result. It is plain that from the moment the false passage begins to be formed, the use of the canula becomes unnecessary, as no air can pass through it. How long in the present case this was forming, it is impossible to say, but it has evidently been the work of some months. The opening in the rings of the trachea is perfectly free and exactly opposite the wound in the integuments. A straight tube would probably have prevented the fatal result, and it may be well

to remember that, in cases where the tube is to be worn and the patient is not likely to come under the surgeon's eye.

Lastly, I have only to refer to the efforts of nature to arrest the hemorrhage. The beautiful provision by which this is effected has been so often and so ably enlarged on, that I shall content myself by directing attention to the firmness and size of the coagulum which could resist for any time the almost direct action of the heart.—*Dublin Medical Press*, Dec. 23d, 1846.

36. *Cancer of the Breast in the Male*.—HOLMES COOTE, Esq., records in the *Lancet*, Jan. 30th, 1847, two cases of cancer in the male, treated in the St. Bartholomew's Hospital.

It is not surprising, observes Mr. Coote, that an organ so rudimentary as the mammary gland in the male should be rarely the seat of disease. I have met with but two morbid conditions of the part:—

1. Inflammatory swelling, arising from various causes.

2. Schirrhus, or hard cancer.

The following remarks refer only to the latter disease:—

Cancer of the male breast is almost invariably of the schirrhous or fibrous variety. It attacks people, otherwise healthy, at or after the middle period of life. The statement, that it occurs only in men of advanced age, between sixty and seventy, is incorrect. David H—— (Case 1) was forty-four, and William H—— (Case 2) was forty-two years of age, when their attention was first directed to the disease. Commencing as a hard, movable, and circumscribed subcutaneous knot, in or near the mammary gland, it pursues its course slowly, and often unattended by pain, if unirritated by caustic applications. In the course of six or eight months, the axillary absorbent glands become enlarged and hardened; and the absorbent trunks, passing to them from the mammary gland, may be converted into firm, hard cords. Other smaller subcutaneous knots, also connected to the seat of the primary disease by hard cords, may be occasionally detected upon the surface of the chest. Case 1 affords an instance of extension of the disease to the osseous system. Cancerous matter, deposited in the form of tough, gray-coloured, pulpy mass, distends the compact bony structure, and converts it into a loose trellis-work. Under these circumstances, the application of very slight force is sufficient to produce a fracture.

The disease usually proves fatal by its extension into the cavity of the chest. Frequent attacks of bronchitis exhaust a frame much reduced by long-continued suffering, loss of appetite and of sleep. The immediate cause of death can in general be referred to effusion of fluid into the cavity of the pleura, consequent upon morbid deposits in the membrane.

It is a commonly received opinion, that when cancer attacks the breast in the male, there is less probability of internal organs becoming affected, than when it occurs in the female; and it is from thence inferred that an operation may be undertaken in the former, at a more advanced stage of the disease, with better prospect of permanent cure. I am not acquainted with the grounds upon which these statements rest; they do not receive support from the evidence afforded by the two cases here related. In them we find the disease pursuing a course precisely similar to that which we have more frequent opportunities of witnessing in the female. In the course of a few months, the cancer spreads from its original size to the neighbouring absorbent glands; next, it attacks the bones, or manifests itself in some of the important cavities of the body, where its presence soon leads to consequences fatal to life.

37. *Gunshot wound of the Lung, where the ball lodged fifty years*.^{*} By EDWARD MOORE, M. D. (*Lancet*, Jan. 6th, 1847.)—Gunshot wounds of the lungs, where the foreign body remains in the organ, are generally of a fatal character. A case which forms an exception to the rule was recorded by Dr. HOUSRON, of Wheeling, in our No. for April, 1845, p. 342, et seq., and the present is also a very remarkable one of the same kind. The subject of this case was wounded in Dec., 1796, during a naval engagement, in the back by a musket shot, which entered about the right fifth rib, midway between the spine and scapula. On receiving the wound he fell, presently became faint, and experienced a sensation of suffocation,

accompanied with bloody expectoration. To arrest the hemorrhage, which was profuse, some cloth was stuffed into the wound and a sash bound round the chest. This gave instant relief, particularly to the faintness and difficulty of breathing. The patient was afterwards tormented with a sensation as if the ball was lodged in the diaphragm, about the anterior end of the osseous portion of the seventh rib, on the right side.

In March, 1798, at a public dinner, he was induced to forego the cautious manner of living he had adopted, and having taken a glass of wine, it brought on a violent cough, during which he expectorated, what proved on examination to be a portion of his shirt and of a nankeen jacket which he had worn in the action fifteen months before. Each piece was one and three-quarters round, with ragged edges.

After this he commanded several armed vessels and was exposed to great hardships. He continued to experience uneasy sensations from the apparent lodgment of the ball in the lower part of the chest.

Since 1829 the patient resided at Plymouth, during which time Dr. Moore has been his medical attendant. "He has not suffered from want of general health, but has been liable to frequent attacks of bronchitis, which induced an habitual cough, and he was observed to have contracted an increasing disposition to bend the head forwards and towards the left side: this was contrary to the usual result of contraction arising from shrinking of the lung, where the stooping position is generally towards the side affected.*

Latterly he has had one or two attacks of gout. On one occasion he missed a step on coming down stairs, which, in his opinion, displaced the ball, as hæmoptysis resulted for a few days. The sensation of this displacement was felt at the usual place, the end of the seventh rib, and he always thought, that by placing himself in a particular attitude, and making pressure on the part, he had succeeded in restoring it to its original position; this, however, on examination post-mortem, turned out to be erroneous.

During April, 1845, he had a severe pleuritic attack, and the bronchitis became of a chronic character, and he was scarcely ever free from cough and expectoration. In July, 1846, after severe mental excitement, owing to a false accusation, operating on a highly sensitive mind, he came home on the 22d, complaining of chilliness; and having used a pediluvium and gone to bed, he was found during the night to have been attacked with paralysis of the left-hand and arm, which by the 25th had extended to the entire left side of the body. He complained of pain in the right temple, aggravated by his cough; his speech was also thick, and almost inarticulate. Abstraction of blood, purging, &c., rendered him more sensible, and better able to make himself understood. From this time he became more tranquil, but never regained sensation on the left side; the cough also continued to harass him; the dyspnœa gradually increased; expectoration became more difficult; the sputa extremely tenacious, so as to need removal mechanically from the fauces; the mucus was succeeded by gurgling râles; and at length the powers of life gradually sunk on the night of the 27th August, 1846.

Post-mortem examination.—On examining the chest, the left lung was found adherent to great part of the costal pleura; a serous effusion occupied the lower part of the remaining cavity; the air-cells were distended with sero-mucous fluid, and the lung altogether appeared to occupy an enlarged space, the mediastinum bulging into the right cavity of the chest. The heart was natural in size, but loaded with fat. The right lung was contracted to one-third of its natural size, and adherent to the upper part of the chest; its consistence was flaccid, and entirely wanting the resilience and mottled appearance of a healthy lung; indeed, although portions of it floated in water, it may be questioned whether during life it was of much use as a respiratory organ; any trace of the track of the ball seemed to have been obliterated in it, unlike the case related by Sir E. Home,† where, after a

* When the function of one lung has been long suspended, the intercostal spaces become diminished, the ribs ankylosed, and the cavity on the affected side adapts itself to the diminished bulk of the collapsed lung.—(Sir George Ballingall's "*Military Surgery*.")

† Transactions of a Society for the Improvement of Medical and Surgical Knowledge, vol. ii. p. 169.

lapse of thirty-two years, an induration could be traced. The shot, which had entered between the fourth and fifth ribs, fracturing the former, was found imbedded in the substance of the lung, and firmly attached by a pedicle half an inch long, condensed lung, and cellular membrane, to the inner surface of the third rib, just at the junction of the osseous and cartilaginous portions; although the fingers could be passed under it, it could only be separated by the knife. A doubt was expressed by a gentleman present, whether the ball had not been situated exterior to the lungs; but on removing the lung itself out of the body, before exposing the ball, it was satisfactorily shown, by dissection, to my medical friends, Dr. Soltan, Mr. Square, and Mr. Eccles, that it was completely surrounded by the substance of the lung, being contained in a sac so closely in contact with it, that it was difficult to remove the ball when half exposed by incision. There was no serous effusion in this cavity of the chest, the lower two-thirds of which were occupied by the diaphragm, which rose as high as the fifth rib, (in the inclined position of the body,) pressed upwards to such an extent, that on making an incision from above into the convex part of the diaphragm, the knife, instead of exposing the posterior edge of the liver, disclosed the large intestines: thus we were enabled to account for the inclination of the head towards the left side of the body, instead of the right, as in ordinary cases.

Reflecting on the sensation produced during life, of the ball being situated low down in the chest, search was now made for any other foreign body* that might, by possibility, have lodged there; but every part of this locality was found of a healthy character,—consequently an operation on this part, with a view to extract the ball, would have been utterly fruitless, and probably attended with a fatal result. The fact may, perhaps, be accounted for, on the supposition of some reflex nervous action, or from irritation of the phrenic nerve in its course over the lung, which, at the upper part of the chest, was firmly adherent to the mediastinum.

38. *On the employment of Iodide of Potassium in the treatment of Syphilis.*—This recently formed the subject for which the Paris Society of Medicine offered its gold medal. M. Gibert was appointed to report upon the merits of the competitors, and he awarded the medal to M. Payan, of Aix, recommending, at the same time, a silver medal for an essay by M. Bassereau. M. Gibert's Report and M. Payan's Essay are both published in the *Revue Médicale*.

M. Bassereau's paper is chiefly valuable as containing an ample detail of M. Ricord's experience in the use of iodine, he having been one of those who have employed it most extensively. According to M. Ricord there is but one *primary* symptom, chancre; and the shorter the duration of this is rendered, either by an early resort to caustic, or a later employment of mercury, the less are secondary symptoms to be feared. Secondary syphilis may be divided into two epochs. During the first, *secondary* syphilis properly so called, those of a superficial character chiefly occur, such as exanthematous eruptions, patches on the mucous membranes, and superficial ulcerations at the mucous orifices. The deeper-seated symptoms, which occur later, such as deep-seated tubercle and serpiginous ulceration of the skin, deep ulcer of the fauces, periostitis, &c., are termed *tertiary*. Between these two classes there is found a mixed or *transition* series, comprehending certain of the pustular and tubercular syphilides, venereal sarcocele, &c. For the primary symptoms, mercurials; for the secondary and transition periods mercury, either alone or combined with iodine; and, in the tertiary period, the iodide alone; are the means recommended by M. Ricord.

M. Gibert takes the opportunity of expressing the opinion which a long em-

* "In a case of duel at Exeter, some years ago, in which a promising young physician lost his life, it was found that a pebble-stone had been carried into the same wound, together with the ball, the latter having first struck the ground. Dr. Hennen mentions an instance, where, in the action at Burgos, a serjeant was wounded by a ball in the temple, which had also carried with it, into the same wound, a tooth belonging to a soldier who stood before him."—*Military Surgery*, p. 86.

ployment of this remedy has enabled him to form. 1. The iodide incontestably merits the reputation it has gained as an anti-syphilitic. 2. It may be given in a variety of fluids, but is best administered in distilled water with a little syrup; the quantity varying from 15 to 30 grains per diem, taken in two doses. 3. It succeeds alone in cases of secondary and tertiary syphilis. 4. Its harmlessness renders it especially valuable in syphilitic cachexia, also for women, children, the delicate and feeble. 5. As being more certain and efficacious, and as innocent, Mr. G. prefers the *sirop de deuto-iodure-ioduré*, i. e., iodide of potassium in combination with bi-iodide of mercury. 6. Iodide of potassium is the remedy *par excellence* in those cases in which mercurials fail, while reciprocally these will cure cases which resist iodine.

M. Payan's Essay is the most elaborate exposition of the advantages of iodine we have yet met with; illustrated, as it is abundantly, not only by cases which have occurred to the author, but by reference to a great number of others which have already been published. He passes the various preparations of iodine which have been recommended under review, and considers that the *iodide of potassium* is in every respect the one to which preference should be given. Its easy *solubility* allows of its being administered at any degree of strength, and in almost any vehicle or combination. It is not *irritating* like iodine and so many of its compounds are, and never gives rise to the accidents which they do, even when given at the extreme ages of life. It never induces *marasmus* or *wasting* of organs or tissues, like iodine frequently does: acting instead as a corroborative or tonic, although at the same time it exerts a remarkable resolvent effect upon pathological productions. If iodine has of late years been successfully employed in a variety of morbid conditions, against which it was formerly pronounced inoperative, this is entirely due to this form of it being substituted for those formerly in use. M. Payan does not approve of the association of iodine with the iodide.

Mode of administration.—Dr. Wallace, of Dublin, (the first practitioner who employed this drug in syphilis to any great extent, and whose clinical lecture in the *Lancet*, March, 1836, is frequently quoted from by M. Payan) dissolved ʒij of the salt in 8 oz. of water, and gave the patient a tablespoonful four times a day. M. Ricord, a great authority upon this subject, considers that most cases require about 21 grains per diem as a minimum, divided into three doses. Four or five days after, this dose is gradually increased until double the quantity is taken, which for most cases suffice, although some few may require the maximum, a drachm and a half per diem. M. Ricord, for patients who can afford it, prescribes also syrup. sarsaparilla 500 parts, iod. pot. 16 pts. M. Lisfranc commences with 15 grains per diem, and gradually increases the dose until sometimes as much as 120 grs. are taken—the medium quantity being from 45 to 60. M. Payan gives the medicine in a *tisane*, or if the patient can afford it, in sarsaparilla. If there are any hypersthenic symptoms, he commences with 8 grs. per diem, and otherwise with 12 or 15, increasing the dose by four grains every few days, until from 30 to 40 grains are reached, beyond which he seldom proceeds. The entire quantity which may be required for the cure of the disease varies much in different persons, some requiring very strong doses, and others being cured just as quickly by very moderate ones. The medicine will be usually required for from one to two months, for the cure of primary symptoms: from two to three for secondary syphilis, and from two to four for tertiary symptoms. If the medicine is given in *pills*, it gives rise to very severe griping, which it never does in solution. When the stomach is very irritable, it may be given in an *enema*.

The author first demonstrates, from his own and others' observations, the immense utility of this drug in *tertiary syphilis*. This class of cases is precisely the one in which mercury has been often found of so little avail, or even to lead to exacerbation of the evil; so that many persons have been accustomed even to attribute the existence of the symptoms to its use. It is evident that a long continuance of the syphilitic diseases impoverishes the system, producing pallor, wasting, &c.; and yet we give one of the most hyposthenic of remedies, possessing the power of attenuating the blood, and diminishing its plasticity. How often have practitioners regretted the absence of a remedy combining the power of a specific and a reparative or tonic! The iodide accomplishes these purposes in the most effectual manner; and very remarkable it is, that while mercury is less

efficacious in proportion to the inveteracy of the disease, the rapidity and completeness of the operation of iodine is proportionate to the prior long-continuance of the disease. "For those who might charge us with exaggeration in our appreciation of this invaluable medicine, we may refer to its success in the obstinate cases we have detailed. We have seen it almost instantly arrest the course of the disease; relieve and cure those dreadful pains in the bones which had caused so much misery; disperse exostoses, periostoses, and those gummy tumours which had offered such resistance; cicatrize those terrible, gnawing ulcers; triumph over muscular contractions, and cases of caries and necrosis heretofore attended with such terrible consequences: and, in fact, cause, the disappearance of those diatheses which were formerly deemed utterly incurable, the grave holding out the only prospect of escape from them. If, again, we consider that the progress towards cure has always proceeded with unhopd-for rapidity; that the medicine is in itself harmless and exempt from the inconveniences which make so many patients dread mercury, we shall feel less surprise at so favourable an opinion being given. 'I am so persuaded of the efficacy of iodine in tertiary syphilis,' observes M. Ricord, 'that I hesitate not to propose it as a specific in such cases, while it may act as a prophylactic against such, after we have dissipated the secondary symptoms by the aid of mercury.'"

Although most practitioners allow the vast efficacy of this medicine in *tertiary syphilis*, greater discrepancy of opinion prevails as to its utility in *secondary syphilis*. M. Payan, however, quotes many cases in its favour, and thus sums up. 1. That, even as regards secondary syphilis, the iod. pot. should be reputed an anti-syphilitic. 2. That it is especially useful in the syphilides. 3. That the longer secondary symptoms have existed, i. e., the nearer they approach the category of the tertiary ones, the more obedient are they to the action of this remedy. 4. That this medicine should be especially resorted to when the symptoms have resisted mercury judiciously administered. 5. That we should even commence with it when from the age of the symptoms we judge them removable by mercury but with great difficulty, or when the debilitated state of the constitution indicates the necessity of reparation. Many cases which have partaken of the character of secondary and tertiary symptoms have benefited by conjoining with the mercurials decoction of sarsaparilla containing the iodide. It would be unjust to deny the anti-syphilitic powers of the iodide, because in some cases of secondary or other syphilis it proves inefficacious; for mercury itself, in stages of the disease wherein its beneficial agency is unquestionable, sometimes fails also.

For exemplification of the utility of the iodide in *primary syphilis*, M. Payan is obliged to rely almost exclusively on the evidence his own cases afford, few practitioners having employed it in this stage. He, however, has since 1842 made experiments upon this point, furnishing, he states, highly favourable results. Fifteen of these cases he relates, almost all consisting of indurated chancres, taken, however, unselected, from among the patients who offered themselves to his notice. He concludes—1. That, even in primary syphilis, iodine should not be considered as destitute of anti-syphilitic properties. 2. That it has been found useful sometimes in continuing a treatment commenced with mercury, at others as an exclusive means of treatment. 3. That therefore, without pretending to declare it should, in the generality of primary symptoms, be preferred to mercurial preparations, the efficacy of which every day's experience testifies, yet there are cases in which it may be highly serviceable. 4. That in cases in which the primary symptoms resist the action of mercury, the substitution of, or the addition of the iodide to the mercury operates as a cure more rapidly than any other succedaneum. 5. There are cases in which we should prefer the use of the iodide to mercury, as when the symptoms have an indolent character, or are connected with a marked hyposthenic condition.—*Med. Chirurg. Rev.*, Jan., 1847, from *Revue Médicale*, tom. ii. for 1846.

39. *Application of ice in the treatment of injuries.*—The application of ice to a great proportion of severe wounds, is the established practice of several of the most respected French surgeons.

In the Hôpital St. Louis, burns are treated in this way, and its application in

extensive burns appears to us to be that in which its employment is most strongly opposed to our treatment of the same injuries.

"However extensive the surface or the depth of a burn, it is immediately covered with bladders half full of pounded ice, which are fixed by different contrivances, according to the injured part, and this treatment is continued till the separation of the eschars. If the burn is very extensive, the patient is placed in a sheet, and, held by two men, is plunged into a cold bath."—*Annales de Thérapeutique*, May, 1846. It is said that the patient experiences immense relief from this treatment, and that he is comparatively free from pain as long as the body can bear the extreme cold. The bath is repeated frequently. It is believed by the advocates of this treatment that the extent of sloughing of the surface is thus greatly diminished: in other words, that the extent of destruction of the injured parts does not depend on the severity of the original burn, but on the intensity of the reaction, which occurs afterwards, and the beneficial operation of the cold is attributed to its preventing, or in a great measure, subduing this reaction.

However rational the theory, we believe that in practice, this treatment of very extensive burns will invariably be found inapplicable. The surface of the body in these cases is in the first place cold, and the patient collapsed and pulseless, and we do not think the most strenuous advocate of the ice and cold water system would immerse a patient in this state in a cold bath. On the contrary, stimulants must be administered, and the small quantity of caloric remaining in the body is to be preserved by the external application of cotton wadding and other non-conducting substances. It must be remembered, too, that the shock from an extensive burn is not recovered from so rapidly as that occasioned by most other injuries; and frequently soon after the full establishment of reaction, the separation of the sloughs has commenced, the extent of which we believe to depend entirely on the severity of the original burn, and not on the treatment employed. The application of ice in smaller burns, we should think much more worthy of trial; indeed, we are aware that great relief is sometimes obtained from its use, and as relief from pain in such cases is one of the best indices of treatment, the feelings of the patient may very properly guide us in its employment.

In the Val de Grace, M. Baudens uses ice extensively in cases of wounds, contusions, and compound fractures, and apparently with much success; but this surgeon, not content with the degree of cold produced by the ice, reduces the temperature to a much lower degree (15° below zero C.) by mixing it with common salt. It is allowed, however, that this extreme degree of cold frequently produces considerable pain to the patient, and a feeling of tightness and congestion of the part; and we should naturally expect such an extreme degree of temperature to prove rather a source of irritation to the part, than to act in the beneficial way in which it is represented. By using cold water, and renewing its application very frequently, we probably obtain as low a temperature as it is advisable to apply on most occasions.

We feel assured that the indiscriminate and continued application of ice to wounds and injuries is frequently productive of mischief. We have witnessed fatal erysipelas on several occasions supervene during its application; and in a large hospital in the north of Germany, where this treatment was indiscriminately applied in every case of wound, contusion, and fracture, simple or compound,—fatal cases of phlebitis and erysipelas occurred with greater frequency than we have ever seen elsewhere.—*Monthly Journal of Medical Science*, Jan. 1847.

40. *Ununited Fracture successfully treated by Acupuncture.*—M. LENOIR has employed acupuncture with success in a case of fracture of the thigh at its middle, in a carpenter, 31 years of age, of vigorous constitution, in which the ordinary apparatus, and afterwards the immovable apparatus had been used without union taking place. Six months after the accident, M. L. inserted four long needles between the fragments of bone and allowed them to remain. Swelling and inflammation came on, and pus was discharged around the needles. As soon as this excitement subsided, four more needles were inserted, as at first, so as to equally excite every portion of the surface of the bones, and when the inflammation induced was deemed sufficient, the needles were withdrawn. The usual apparatus was applied to the limb and in three months solid union was accomplished.

41. *Amputation of the Thigh.* (*Monthly Journ. Med. Sci.*, Nov. 1846.)—Professor SYME, though he has for many years recommended the flap to the circular operation for amputation of the thigh, has long been sensible of some serious inconveniences apt to attend the performance of the former, and he is now satisfied that there are circumstances in which the circular incision ought to be preferred. The following are the grounds upon which he thinks a reasonable selection may be founded.

“In favour of the flap operation, it is contended, 1. That the process from its facility and rapidity of execution, must be less painful to the patient than the circular incision; and also renders it unnecessary to use a tourniquet, as manual compression in the groin may be effectually employed during the short space of time required for its performance, so that the limb may be removed at any part of its extent, and without the inconvenience alleged to result from the pressure of a tourniquet, in regard to ligature of the vessels. 2. That the soft parts may be readily fashioned, so as to afford an ample covering of muscle and integument for the bone. And 3. That the different textures of the stump, being allowed to preserve their natural connections, are more capable of sound union, than when detached from each other by dissection and retraction. In objection to this method it is said, 1. That the rapidity of execution is apt to prove hurtful in subjects of defective strength, by producing a shock similar to that of a gun-shot wound. 2. That the vessels being cut obliquely, are secured with difficulty. 3. That the wound is of greater extent than the surface resulting from circular incision. And, 4. That though the flaps afford an ample covering for the bone in the first instance, the contraction of their muscular substance gradually withdraws them from it, during the process of healing, so that there is ultimately nothing more than skin, and frequently not even this, to protect the osseous surface. The grounds upon which the circular operation is maintained, are, 1. The greater facility which it affords to ligature of the vessels. 2. The smaller size of wound resulting from it. And 3. The more permanent covering which it affords to the bone.

“In subjecting these various arguments on both sides of the question to the test of experience, it may be remarked, that they are not all of equal value; some of them relating to matter of mere convenience, while others regard consequences of the most serious nature. The great questions at issue are, Which operation least endangers the patient's life? and, Which affords the most comfortable stump? Now, every one who has witnessed the flap operation performed extensively and indiscriminately for amputation of the thigh, must have seen a large proportion of deaths, and in the event of recovery, not unfrequently a condition of the stump no less unseemly than inconvenient. Such are the undeniable facts, and their explanation presents little difficulty to any one who has had sufficient opportunity of observation.

“So far as the mere performance, or early consequences of the flap operation, are concerned, nothing can be more satisfactory. The incisions are executed almost instantaneously, and the whole process is completed with a degree of facility, dispatch, and ease to the patient, that presents a remarkable contrast, when compared with the delay and suffering, from complexity of procedure, necessarily attendant upon the circular method. The following extract from a letter addressed to me by Mr. Robertson, Surgeon of the Convict Hospital Ship, Sheerness, affords a good illustration of the impression thus made upon an unprejudiced mind.

“DEAR SIR,—An opportunity having been afforded in this hospital of putting into execution the mode of amputation recommended by you in the seventy-eighth number of the *Edinburgh Medical and Surgical Journal*, I determined on adopting it. My patient, a lad of sixteen, labouring under an enlargement of the bones of the knee-joint, which had resisted repeated local bleeding by leeches and cupping, issues, blisters, embrocations, and moxa, together with several courses of alterative medicine, submitted to the operation on the 2d instant. My assistant, Mr. Bayley, having undertaken to command the femoral artery by pressure with his thumb, I followed your directions in every particular, employing neither tourniquet, tenaculum, nor retractor; and in comparison with the former mode of amputation, this was the work of a moment, with a great diminution of pain, little or no hemorrhage, and with a surface that enables every vessel to be

seen on the instant. * * * * A convict, on whom I had amputated some time ago, stole unnoticed into the ward, and witnessed this operation. He was so struck with the rapidity of the process, and the diminution of pain to the sufferer, that he stopped me on deck to express his surprise at the *unnecessary* pain to which he had been subjected! I quieted his vexation by telling him, that this mode was not then known.—I am, dear sir, &c.

“18th August, 1824.

ARCHIBALD ROBERTSON.”

“When the flaps are placed together it seems as if nothing could prevent their perfect union so as to effect a speedy cure, and afford a comfortable covering to the bone. In some cases these favourable anticipations are fully realized; but though a good many days, and even one or two weeks may elapse, without making manifest the disappointment to be experienced, it much more frequently happens that the soft parts, however ample they may have appeared in the first instance, gradually contract and diminish until care is required to keep their edges in apposition over the bone, which sometimes, notwithstanding every precaution, at length becomes denuded, and presenting itself to view, whether dead or living, proclaims the unavoidable misery of a sugar-loaf stump. This distressing result depends upon the vital contractility of the muscular tissue, which continuing in operation so long as the cut surface is not prevented from yielding, by the formation of new adhesions, not only lessens the mass of flesh provided for covering the bone, but gradually retracts it together with the superjacent integuments. The effect thus produced is favoured by the following circumstances: In the first place, by cutting the flaps of such moderate length that when brought together they merely meet without straining; secondly, by sawing the bone where it is exposed by simply separating the flaps, instead of drawing the muscles back so as to divide it at a considerably higher point; and thirdly, by performing the operation at the lower third of the thigh. Mr. Liston recommends amputating at the middle of the bone, upon the ground of thus forming a more convenient stump for the attachment of an artificial limb than would result from operating at a lower point. For my own part, I have, during many years past, advised this to prevent the great risk or almost certainty of protrusion to which the bone is exposed when divided at or near its lower third. But the flap operation being thus objectionable below the middle of the thigh, and even higher up seldom in the end furnishing more than a covering of skin to the bone, it may be inquired how far the circular method deserves adoption in amputating at the lower third.

“The true object of the circular incision is to provide a covering of skin for the bone; and a great error has been committed by many, indeed almost all the would-be improvers of this operation, in directing their attention to modifying the division of the muscles, as if any form of their section could materially influence the result. All the attempts with this view have been directed so as in one way or other to give the cut surface of the muscles a conical form, evidently under the impression that they serve to assist in covering the bone. Now, it is quite clear, that if the ample masses of flesh afforded by the flap operation yield to the retractile agency of their tissue, the scanty portion obtained by any form of circular incision cannot have the slightest effect in improving the condition of the stump. These wrong directed efforts would have done no harm unless they had withdrawn attention from what was really required to render the result satisfactory. In this way, however, they have seriously opposed improvement, and in my own case, I confess, long prevented the truth from being distinctly seen.

“The perfect condition of stump resulting from amputation at the ankle, where there is nothing but integument to protect the bone, led me to conclude, that if the circular operation could be performed with the certainty of providing such a covering, it might be employed with advantage in the lower third of the thigh; which being the thinnest part of the limb, most readily admits of forming a stump composed merely of skin. There is also, in operating here, plenty of room to apply the tourniquet without impeding the incisions or retraction of the muscles, and the size of the wound inflicted is, of course, much smaller than that of an amputation at the middle of the thigh. In the course of this summer I have performed the operation four times, on adult patients, with the effect of confirming

the favourable expectation which the considerations just mentioned had led me to entertain; and I now feel warranted to advise that whenever a case requiring amputation of the thigh admits of the limb being removed at its lower third, the circular method should be employed.

"The compress of the tourniquet should be applied over the artery close to the groin. Instead of the old-fashioned concave-edged, thick-backed amputating knife, a middle-sized one of the kind employed for the flap operation, will be found more convenient. The incision of the skin should be made as near the knee as possible, not in a circular direction, but so as to form two semilunar edges, which may meet together in a line from side to side, without projecting at the corners. The fascia should be divided along with the integuments, which are thus more easily retracted—not by dissecting and turning them back, but by steadily drawing them upwards, through means of the assistant's hands firmly clasp ing the limb. This should be done to the extent of at least two inches, or more, if the thigh is unusually thick. The muscles are then to be divided as high as they have been exposed, by a circular sweep of the knife, directly down to the bone, from which they must be separated and retracted with the utmost care. In ordinary circumstances, the retraction should not be less than two inches, and before using the saw, the bone must be completely exposed by means of a cloth split up the middle, applied on each side of it, and forcibly held up.

If due attention be paid to these directions, I feel confident that amputation by circular incision at the lower third of the thigh will afford satisfactory results, and should therefore be preferred to the flap operation, at a higher part of the limb, when the circumstances afford room for choice. Where it is necessary to amputate at or above the middle of the bone, there can be no question as to the propriety of operating by the flap method.

"Before arriving at the conclusion which has just been explained, I thought that amputation at the knee might be employed with advantage, as a substitute for the flap operation, at the middle of the thigh; and my opinion would still be so, if this alternative afforded the only room for choice. I operated at the knee with complete success in three cases, two of which were diseases of the joint; and the other a recent injury from the leg having been torn off by machinery. But as the soft parts required to form the stump in this situation, are apt to be so deranged in their texture, as to delay, though not prevent recovery, and thus, in some measure, counterbalance the advantage of exposing cancellated, instead of dense bone, together with the contents of its medullary cavity, I do not persist in advocating amputation at the knee, when satisfied that the operation by circular incision, if performed with due care, on proper principles, may be employed at the lower third of the thigh, safely and advantageously."

42. *Case of Fatal internal Strangulation caused by a Cord prolonged from a Diverticulum of the Ileum.* By T. B. CURLING, Lect. on Surgery. (*Proceedings of Royal Med. Chirurg. Soc.*, Dec. 8th.)—Mr. T., æt. 53, subject to dyspepsia, after making a hearty supper, Nov. 14, suffered a good deal from indigestion. The next morning he was suddenly seized with pain in the abdomen, the usual symptoms of obstructed bowels followed, and the patient died on the 20th.

The body was examined 38 hours after death. There were no marks of general peritonitis; merely slight serous effusion in the cavity. The small intestines were greatly distended. At the spot to which the pains were invariably referred, a portion of the lower part of the ileum, about seven inches in length, very tense, and of a dark colour, was found tightly strangulated by a long slender cord. The parts were removed for a more careful examination, when the cord was discovered to be composed of serous membrane, inclosing a little fat, which was prolonged from a diverticulum from the commencement of the ileum. This intestinal appendage was about four inches in length; at its origin it was about the size of the intestine, and, gradually diminishing, terminated in a cul-de-sac, from the extremity of which the cord was prolonged. The commencement of the cord was crossed and constricted, together with the intestine, by its terminal portion; and just below this spot it formed a dark bulbous swelling, composed of fat and congested vessels. The cord was about four inches long, and, after forming a

loop through which the intestine was strangulated, it spread out and became attached to the mesentery, near its root. The large intestine was quite empty.

The author remarks that this case affords an example of a very rare form of internal strangulation, and is an addition to a number of those cases in which no internal remedies are capable of affording relief. The best practical surgeons of the present day, he believes, entirely discountenance the proceeding once adopted by Dupuytren, of opening the abdomen at the supposed seat of obstruction, for the purpose of liberating the intestine. He has never, however, met with a case in which the symptoms, seat, and nature of the obstruction were so favourable for such an operation as in the one just related. The patient was a lean subject; the part strangulated was evidently small intestine; the pain and tenderness were confined throughout to one spot, and that directly beneath the lineæ alba; and there were no symptoms, even to the last, of peritoneal inflammation. At the post-mortem examination, the obstructed intestine was found precisely at the site anticipated, and not deeply seated in the cavity. The cause of obstruction was a slender cord, in which a trifling incision would have set the intestine free; and there were no marks of peritoneal inflammation, with the exception of deep congestion of the portion of intestine directly implicated.

The author states that the museum of the College of Surgeons contains a preparation closely resembling the morbid specimen just described; but there is no history of the case. He is also indebted to Mr. Paget for the reference to another similar case, of which the parts are preserved in the museum of St. Bartholomew's Hospital. In this case, the intestine was strangulated by a ring formed entirely by the diverticulum; whereas, in the case related in the paper, and in the preparation at the College of Surgeons, the constriction was produced chiefly by a cord prolonged from the extremity of the diverticulum. This cord, he believes with Mr. Paget, consists of the remains of the obliterated omphalo-mesenteric vessels. In conclusion, the author notices two cases of gastrotomy successfully performed in cases of obstructed bowels, by surgeons in the United States.

Dr. Snow said that there were other cases besides those to which Mr. Curling had referred, of exactly the same nature as the one just related. In his paper on a case of strangulation of the ileum, read to the Society last session, he (Dr. Snow) had referred to a case related by M. Moscati in the "*Mémoires de l'Acad. Roy. de Chirurgie*," which was, in every particular, even in the situation and dimension of the parts, exactly like Mr. Curling's case; and he had been lately informed by Mr. Robert Wade, that that gentleman once met with a fatal case of internal strangulation of the bowel by a fibrous band continued from an abnormal branch of the ileum, and attached by its other end to the mesentery. Although these cases were certainly rare, yet they formed a distinct class of internal strangulations, depending on a particular congenital malformation, which, as he (Dr. Snow) had stated in his paper, and as Mr. Curling had now stated, was a persistent state of the ductus omphalo-mesentericus. With respect to the question of operation in cases of strangulation by an internal band, the case he had related last session would not admit of it, for the patient had never been able to refer her pain to any spot in particular.

Mr. Curling replied that the case of M. Moscati had not escaped his memory; but in consequence of a wrong reference, he had been unable to give an account of it.

Mr. Bransby Cooper requested an explanation of Mr. Curling as to the opinion expressed in the paper, that the case related was a good one for the operation of opening the abdominal cavity, with the view of removing the cause of the strangulation. He should be glad to know his reason, also, for concluding that the small, and not the large intestines, were the seat of the mischief.

Mr. Curling replied that he had not said that the case related was an excellent one for operation, but only that if an operation were to be performed in any case, this was the most favourable one for such a proceeding that he had ever seen. The reason why he had considered the obstruction to be situated in the small intestines, consisted in the fact of a fixed pain two inches below the umbilicus, which continued after the large intestines had been relieved. He was willing, however, to admit that there might still be a doubt as to the exact seat of the strangulation.

Mr. Bransby Cooper had made his inquiry because he believed a diagnostic mark of a certain character existed to point out the seat of the obstruction. He believed that what was called "stercoraceous vomiting" never existed when the obstruction was in the large intestine. When the strangulation was below the ileo-colic valve, vomiting at all was rare, and stercoraceous vomiting never occurred.

Mr. Curling had never seen vomiting of feculent matter in any case of obstruction either of the large or small intestine.

Mr. Bransby Cooper related the case of a man who was brought into Guy's Hospital with all the symptoms of strangulated hernia. He was very blue and collapsed, but there was no sickness; obstinate constipation had existed for two or three days. The man sunk, and, after death, a portion of small intestine was found strangulated by an adventitious cord passing from one portion of the mesentery to another. He stated that he had, in fourteen or fifteen cases, relieved the stricture in strangulated hernia without opening the sac, the proceeding being attended with no more inconvenience than the application of the taxis.

Dr. Mayo related the case of a patient who died in the Marylebone Infirmary from obstinate constipation, attended with vomiting of stercoraceous matter throughout. On examination after death, the rectum was found to be so constricted that it would not allow of the passage of a crow-quill, the coats of the intestine being so remarkably thickened. No other kind of disease was present. Dr. Mayo threw out a suggestion, that in cases of obstruction, it was desirable, in the first instance, not to give purgatives of a flatulent character, in order to allow the bowel an opportunity of returning to its proper position.

Mr. Bossy related the case of a man who was the subject of inguinal hernia. When the bowel was up he was in pain, but if it were down, he was easy. One morning the hernia did not descend, and he was seized with vomiting and all the symptoms of strangulation. No hernia could be detected, and the man died. On examination, a band was found arising from the root of the mesentery, and attached just above the opening of the inguinal canal, so that when the intestine passed up, a portion of it, to the extent of twelve inches, became strangulated.

Mr. Lloyd had seen many instances of obstruction to the large intestines, in which there was vomiting of stercoraceous matter. A fatal case had recently occurred to him, in which this kind of vomiting was present to a remarkable extent. A tumour was found at the upper part of the colon. In another case, in which stercoraceous vomiting was a marked symptom, constriction was found at the upper part of the rectum, arising from induration and thickening of all the surrounding tissues. In hernia of the large intestine he had seen vomiting as urgent as when the strangulation was situated in the small intestines.

Mr. Bransby Cooper had confined his observations, in reference to the presence of stercoraceous vomiting as a diagnostic mark of the situation of obstruction, to acute cases.

Dr. Mayo briefly alluded to a case of an acute kind, in which stercoraceous vomiting existed for several days, and was terminated by the expulsion of a calculus by active pressure. The calculus had been the cause of the obstruction.

Mr. Arnott said that much depended upon what was meant by stercoraceous vomiting. He regarded the matter called fecal or stercoraceous, as that yellowish fluid with a fecal smell, similar to that found in the small intestines. He agreed with Mr. Cooper to some extent, and related the case of a child with imperforate rectum, whose parents would not consent to an opening being made in the gut. The infant lived for seven weeks and three days. For three days there was stercoraceous vomiting, but none afterwards. The rectum and sigmoid flexure of the colon were full of fecal matter, so that only the contents of the small intestines had been thrown out.

Mr. Solly inquired whether the surgeon in any case was justified in cutting into the abdominal cavity to relieve internal stricture? Some of these cases depended on the presence of a simple band passing from the mesentery to the colon and confining the small intestines, so that one nick of the knife would instantly remove the cause of obstruction.

Mr. Lloyd had seen several cases of imperforate rectum, in which the children have lived for six, seven, eight, and even nine weeks.

Mr. Brooke concurred with Mr. Solly, that the Society had, in their discussion on this interesting case, lost sight of the most important practical point—namely, under what, if under any circumstances, a free incision into, and exploration of, the peritoneal cavity, might be deemed a justifiable operation. He feared that the situation of the lesion, being distinctly pointed out by symptoms during life, as in Mr. Curling's case, must be viewed as the exception rather than the rule; as in most cases of the kind that were on record, the patient suffered so much from general distension of the intestine by flatus, as to be unable to point out any especial seat of pain. A case of internal obstruction had occurred in his own practice some years since:—A coachman, after eating a hearty supper, was seized in the night with considerable pain in the abdomen, a little to the left of the umbilicus, at which point there was, on the next day, tenderness on deep pressure, but not superficially. The usual remedies were exhibited without effect; stercoraceous vomiting, prostration, and all the ordinary symptoms of strangulated hernia, supervened, and the patient died after five or six days. For the last two days, he suffered little either from pain or tenderness, the point of obstruction having probably been relieved by the inverted peristaltic action. On a post-mortem examination at the precise spot indicated during life, a loop of small intestine about three inches long, was found to have slipped under an epiploic appendage, the end of which was adherent to a neighbouring point of the mesentery, the passage being thus obstructed without strangulation. He had been enabled, by the symptoms, to form so correct a diagnosis in this case, that had he then been aware of the immunity with which, under judicious precautions, the peritoneal cavity may be freely opened, and its contents submitted to a considerable degree of manipulation, as demonstrated by the many invariably successful operations performed by Dr. F. Bird for the removal of ovarian tumours, he would certainly have subjected the patient to the, at best, precarious remedy of an exploring operation.

Mr. Bowman concurred with Mr. B. Cooper respecting the diagnostic mark as to the seat of obstruction. He related a case of internal strangulation, in which an exploratory operation was performed, by an incision being made a little to one side of the linea semilunaris. There was little or no local pain to indicate the seat of obstruction, but there were slight fullness and tenderness over the right side, above the groin. The obstruction was not found, but it was thought by the operator that if he had opened the abdomen at the linea alba instead of at the linea semilunaris, the cord, which, after death, was discovered to extend from a diverticulum of the small intestines to the umbilicus, and which covered the strangulation, might have been met with, and the patient relieved.

Dr. Ogier Ward said that we ought to pause before we resorted to so dangerous an operation as opening the cavity of the peritoneum in search of the cause of a strangulation or other lesion producing its symptoms; as he did not believe that our diagnosis of those affections was sufficiently established to authorize such a proceeding; and in proof, he mentioned, that it had fallen within his limited experience to have witnessed two fatal cases of this kind within the space of three months, both arising from fibrous tumours within the cavity of the intestine, and of course not to be removed by any warrantable operation, even though the intussusception they produced might have been relieved by it.

Mr. Charles Hawkins regarded the question of operation in these cases as one of the greatest importance. He had seen a case, two years since, in which he thought an operation would have been justifiable. A young woman, 20 years of age, suffered for two days with all the symptoms of strangulated hernia, without the presence of any external tumour. All the remedies employed failed to benefit her, and after death a small knuckle of intestine was found strangulated by a loop of adventitious membrane, the result of a former inflammation. Had an exploratory operation been performed in this case, the patient would have been easily relieved.

Dr. Copland thought the operation might be attempted in some cases. With respect to the locality of the obstruction, there would generally be found greater tenderness at one point than another, and on careful percussion the obstructed point would be found to be duller than the rest of the abdomen. He did not think an exploratory operation would be attended with more difficulty or danger than the removal of an ovarian tumour, and as we know that the case must terminate

fatally, we should do better by attempting this than by doing nothing.—*Lond. Med. Gaz.*, Dec. 1846.

43. *Case of Internal Strangulation of Intestine relieved by Operation.* By GOLDING BIRD, M. D., and JOHN HILTON, Assistant Surgeon to Guy's Hospital. (*Proceedings of Royal Medical and Chirurgical Society*, Feb. 9, 1847.)—Dr. Bird remarks, that the attention of the society having been lately occupied with the consideration of the practicability of diagnosing the seat and nature of the obstruction in cases of internal strangulation, with a view to its relief by operation, he ventures to hope that the history of the following case will not be considered devoid of interest.

Dec. 21st, 1846.—Dr. Bird was called to Bocking, in Essex, to see Mr. C—, a young gentleman twenty years of age. Eight days previously he was as well as usual, having merely had constipated bowels for a couple of days, when, in the morning, whilst in bed, he became sensible of a slight dragging or sense of giving way about two inches to the right of the umbilicus, towards the spine of the ileum. This sensation was soon replaced by a sense of soreness and tenderness. During the following six days, nothing passed from the bowels except with the aid of a copious enema. Purgatives and a tobacco enema failed in procuring stools. Three days previously sickness commenced; a sense of uneasiness and distress was produced by firm pressure on the spot where the dragging was first felt; the abdomen was flat and collapsed. On inquiry, it appeared, that when a child he had been the subject of mesenteric disease, and some years afterwards, of an ailment supposed, from the symptoms, to have been peritonitis. The absence of hernia, as well as of any previous hemorrhage from the intestines, or of exposure to the influence of lead, the improbability of the presence of malignant disease, proved the non-existence of the most ordinary cause of insuperable constipation. Recollecting the dragging sensation and previous existence of peritonitis, Dr. Bird ventured to give an opinion that the mechanical obstruction depended upon a knuckle of intestine becoming strangulated in some manner under a band of false membrane. The character of the vomited matters and the empty state of the cæcum and colon at once referred the seat of obstruction to the small intestines. Trial was made of metallic mercury, after which the pain and vomiting ceased, and no important change occurred until Dec. 25th, when pain and vomiting returned. The propriety of an operation was entertained; and Dec. 28th, the writer requested the assistance of Mr. Hilton for this purpose, and they arrived at the patient's house at nine o'clock P. M., being just fifteen days from the commencement of the illness. The abdomen was scarcely more distended than on the 21st, but the muscles were more irritable, assuming a state of spasmodic contraction on the slightest manipulation. No great uneasiness experienced on pressure. Pulse 90; skin soft and cool, and tongue moist. The patient was placed in a room in which a temperature of 88° to 90° was maintained.

Mr. Hilton states, that having arrived at the same conclusion respecting the nature and seat of obstruction as that described by Dr. Bird, he fairly represented the various arguments and facts for and against an operation to the patient, who expressed himself decidedly desirous of the attempt being made to relieve him. An incision was made from the median line to within an inch of the pubic symphysis, and the abdomen opened. Several convolutions of distended and congested small intestine so completely blocked up the opening, that it was necessary to enlarge the incision for about one inch and a half above the umbilicus. After dividing a band of adhesion between two portions of small intestine, and making a careful search in different parts of the abdomen, Mr. Hilton found on the right side about six or seven inches of ileum in a state of strangulation, having passed through an annular opening formed in part by another portion of the same small intestine, and by some old membranous adhesions to the brim of the pelvis, over the external iliac blood-vessels. By gentle traction on the strangulated intestine at the opposite side of the opening through which it had passed, Mr. Hilton succeeded in liberating it from its incarcerated position. The intestines were replaced with some difficulty, and the abdomen was closed by a continued suture. After the operation, which lasted about an hour, the patient was somewhat collapsed, but there was no marked anxiety of countenance. He afterwards became restless and delirious, and died about nine hours after the operation. On examination of the

body, several strong cellular adhesions were found between the convolutions of the intestines. The cæcum and colon were distended with feculent matter. Mr. Hilton regards the direct results of the operation as very satisfactory, and in a surgical aspect, successful. The hiccough and vomiting ceased; the obstruction was relieved, and feculent matter had passed as far as the upper part of the rectum. So long as any doubt remains as to the seat of obstruction, the author thinks it the safer plan to adopt the median section of the abdominal parietes. After noticing the disadvantage arising from the patient's friends not consenting to an operation at an earlier period, he observes, that the circumstances of the case fully justified the proceeding which was adopted; and, notwithstanding its fatal termination, he would advise the same plan to be pursued in a similar case, provided the indications be as clearly expressed. Mr. Hilton remarks, in conclusion, that he believes this to be the first recorded instance of any surgeon in this country having succeeded in his attempts to relieve an internal strangulation by an operation.

Mr. Fergusson thought this paper of such interest and importance that he should regret to see the meeting separate without passing some opinion regarding it. The subject was interesting alike to the surgeon and physician; for though the latter usually had charge of such a case as demanding internal treatment chiefly, the surgeon was often required to determine the seat of obstruction, and to use such means as are in his power to overcome it. The question of an operation in cases of this description demanded most serious consideration, and he believed that it would be satisfactory to the profession that the subject should be noticed in this society. He had himself long been interested in cases of the sort, for at an early period in his professional life he had seen several instances in which operations had been proposed, but older heads (to whom he was always disposed to bow) had objected. Within the last few years he had seen operations twice performed in such cases. In one he had himself laid open the inguinal canal, in expectation of finding a hernia, but this had been an error in diagnosis; there was no hernia, and the patient eventually died. In the other case, he had been asked by the physician in attendance to operate, but a difference of opinion arose about where and how the operation should be done. There was fullness in the region of the cæcum, which led the physician to think that the operation should take place there, but he himself having a strong opinion as to an incision in the linea alba being the best under the circumstances, had declined doing as the physician desired. An operation was performed, however, by another surgeon; the walls of the abdomen were cut through, and the swollen intestine was punctured with temporary relief. The patient died some hours after, and, on inspection, it was found that the obstruction was caused by a fibrous band, (which confined a portion of the small intestine,) so situated, that had the finger been passed into the peritoneal cavity at the linea alba, it must have been detected, and, in all probability, the operation would have been successful. He (Mr. Fergusson) was of opinion, that under such circumstances as had been detailed in the paper just read, an operation was quite justifiable. All parties agreed as to the danger of wounds in the abdomen; but in such examples as this it was to be remembered that the danger was imminent otherwise, and that, in fact, there was no other chance of life for the patient. The operations which had been so frequently performed within the last few years, for removal of enlarged ovaria, had proved that there was not such risk on opening the peritoneal cavity as had been generally supposed, and therefore, where all other means failed, in cases of internal obstruction, he should not, if the features otherwise were favourable, hesitate to advise an operation. It was an important matter to decide as to where the incisions should be made. He thought that, as a general rule, the linea alba should be selected, and that the surgeon here had very judiciously chosen that part. If he (Mr. Fergusson) had an objection at all to what was done, it was, to the lowness of the incision at first. It had been found necessary to carry it upwards in the course of the umbilicus. and it was his opinion that the incision should at first always be in the vicinity of the umbilicus. It was almost impossible in such cases to determine from symptoms as to the exact seat of obstruction; and notwithstanding the care and skill evinced by the excellent physician who had examined this instance, it would appear from the surgeon's account that the obstruction had not been detected until the hand had been carried all round within the abdomen. These cases were very

different from those wherein some modern surgeons opened the intestines above an obstruction from malignant disease. The main object in such instances was, to give temporary relief, by opening the distended bowel; but in cases like that before the society, the operation was done with the double view of relieving the stricture and bowel at the same time; and as the incision into the peritoneum was a sort of exploratory one, he should certainly recommend the linea alba, near the umbilicus, as being the centre, as it were, from whence all parts of the cavity could be most easily reached.

Mr. Bransby Cooper spoke at considerable length on the subject. He agreed with Mr. Fergusson, that the case related was an important contribution to the society and the profession, but the difficulties surrounding the diagnosis of these cases and the operation for their relief, were not removed by the narrative before them. These questions were still to be decided—When are we to operate? Where are we to make our incision? What are the causes of the obstruction? Let it be remembered, that in some cases where ulceration had supervened on other disease, constipation was the remedy employed by nature to remove the evil. Interference in such cases would do harm. He contended that there was no analogy between cases similar to the one detailed and those in which ovarian cysts had been removed, for the peritoneum in the two cases was altogether in a different condition. He thought that the danger of opening the peritoneum had been underrated, and referred to our success in those cases of hernia in which the strangulation had been relieved without opening the sac, as evidence of the truth of his remark. He remarked on the pulling about of the intestines in the examination as a formidable proceeding, and concluded by asking Mr. Hilton, whether he would have dared to operate earlier than he did, if called upon to do so.

Mr. Quain could not regard any operation in which the cavity of the abdomen was laid open as otherwise than a very serious one; and he referred to the comparative results of those operations for strangulated hernia in which the hernial sac had not been opened, and those in which that membrane had been divided, as proving the peril of any opening into the abdomen. Still, he entertained the opinion that an operation would be justifiable if the internal strangulation were clearly ascertained. In this condition, however, lay all the difficulty; the whole question turned on the accuracy of the diagnosis—on the accuracy with which it could be determined before-hand that the obstruction depended on the presence of a mechanical cause susceptible of being removed by the operation.

Cases had lately been before the society, and one was now referred to by Mr. Fergusson, in which a single band of natural formation, not a product of disease, had been found to cause strangulation of the bowel. He had no doubt that in such cases the operation was called for, and ought to be performed, if their nature admitted of being satisfactorily determined from the symptoms. But it should be remembered that other cases, accompanied with similar symptoms, were not so simple in their nature. In the case detailed this evening, there had been not a single band in the abdomen, but many; and they were the result of previous inflammation. Several portions of the intestine were found connected together by membranous bands; and one of these on the left side was divided in the operation. The case appeared to be one of chronic peritonitis.

To illustrate a different form of disease, attended with symptoms in a great measure of the same kind, he mentioned a case that came under his own observation. He had been called, a few years ago, by a physician in the country, to see a man who was suffering with all the symptoms of strangulated hernia. The attack of illness had begun with obstruction of the bowels, and, as he was informed, nothing but obstruction existed in the first instance. The lower bowels were opened by enemata, but the disease advanced to a fatal termination. On examination of the body, there was found a part of the small intestine, near its termination in the colon, (about an inch or less in breadth, and including the whole circumference,) lying against the vertebral column, dark gray in colour on the outside, and contracted. The mucous lining of the part was likewise of a dark-gray colour, and was corrugated. Above this point, the intestines were largely distended; the colon was empty. He thought it probable that the diseased part of the intestine would have mortified if the life of the patient had continued some time longer. There was, in this case, no constricting band of any kind, or

pressure; nothing, in short, to account for the condition of the gut. A friend, to whom he mentioned the case, told him that he once opened the body of a person who died in similar circumstances, and the post-mortem appearances were the same.

Returning to the diagnosis, which he regarded as the main point, the fixed local pain, and the absence of the symptoms of inflammation in the abdomen, are probably most to be relied on. In the important case read to-night, the pain was constant at one point, and it was attended by a dragging sensation. The movement of the abdominal muscles, which was described, appeared to be very singular. The tenderness on pressure which accompanies inflammation of the peritoneum was said to be wanting; inflammation, however, existed at the time of the operation, for bloody serum escaped when the abdomen was opened.

On the whole, considering the complications which existed in this case, he feared that it would not tend materially to diminish the difficulty in our way in determining the cases fitted for the operation.

Mr. Hilton said he felt much pleased at finding, through the observations which had been made by the gentlemen who had spoken, that they agreed, on the whole, in the propriety of doing what had been done in this case; and that their remarks might be made available in recommending such a proceeding in another case of the same kind. In reply to Mr. Fergusson's only objection, he could not see what would have been the advantage of making the incision, in this case, at the umbilicus, and of using it as the centre of an exploration. In the first place, it would have been against the conclusion at which we had arrived before the operation was commenced, in reference to where we might expect to find the obstruction at the lower part of the right side; and further, the necessity for enlarging for the section beyond the umbilicus would not have occurred had not the small intestines been so much distended as to block up the opening already made. In answer to Mr. Cooper's question—Would we have dared to proceed with this operation at the time Dr. Bird first suggested it as the only favourable chance for the patient? he said, undoubtedly, had the indications been as obvious and as clearly expressed as they were at the period of his seeing the patient, and he would have pursued the same plan. The manner in which Mr. Cooper referred to the details of the manipulations in examining the abdomen, as being first to the right side, and then to the left, might, at the first glance, have a tendency to disparage that proceeding; but it must be borne in mind, that it was a very important examination, completed by merely passing the hand into the abdomen, and without disturbing the intestines, to ascertain that this was not a case of obstruction, depending upon any abnormal adhesions to the abdominal parietes. That point ascertained, it became necessary to look for the cause more deeply seated, and it was only necessary to displace the intestines, when he determined to make a complete exploration on the right side. He might here remark, that he found, as he had anticipated, that the bringing into view the completely empty intestine became the best guide towards discovering the seat of the obstruction, and he thought that this might henceforth be used as a valuable auxiliary in detecting the locality of the stricture in any other similar case; indeed, it was almost the first thing to be looked for; at least such was the importance which he attached to it. Mr. Quain had said that this case did not add much to our existing knowledge regarding these obscure cases, and that as there were so many adhesions, it might have been difficult to tell which of them was the true cause of the symptoms. He (Mr. Hilton) thought that the occurrences, as mentioned in the detail of the operation, and the fact, that notwithstanding such an imaginary difficulty, the real seat of the obstruction was actually, and with facility, noticed, might be considered the best reply. Having reflected with much anxiety on the importance of this case, he was still of opinion that they were right in adopting the plan that was carried out, and that it was the only remaining chance which could be offered to the patient. It had been said that similar cases of constipation had occurred, with symptoms as urgent and as of long duration as the one before the society, and had ultimately recovered without any such operation. Now, he did not believe that such cases had really corresponded to this one; for he felt quite certain, that by no possibility could the portion of intestine have been liberated from its incarceration, except by the means employed. He had endea-

voured to ask himself whether anything more could have been done for this patient; and he must say, that he thought they were wrong in giving such exact directions for the surgeon who had the charge of the case after the operation—viz., to abstain from the administration of any nutrition for many hours. They were guided in this respect by the recommendation of those gentlemen who had made abdominal sections for other diseases; but he had little doubt, if the surgeon had acted on his own responsibility at the time, he would have done so with advantage, and would have given the patient stimulants at or about five o'clock in the morning, when the symptoms were obviously those of exhaustion; for the patient certainly did not die of the immediate collapse of the operation; from this he had obviously rallied; and Mr. Hilton was compelled to conclude that he died from exhaustion. He thought that the case altogether pointed distinctly to our capability of recognising such a case from one of intus-susception, which, as far as he knew, after its existence for a few days, was always accompanied by more or less of hemorrhage from the bowels; and it at the same time strengthened the conclusion, on which they acted, that the operation, as completed in this patient for the first time in this country, was an operation not only justifiable, but advisable in similar cases of internal strangulation of intestine.

44. *Strangulated Congenital Hernia in an infant seventeen days old, requiring operation.* By W. FERGUSSON, Esq. (*Proceedings of Royal Medical and Chirurgical Society*.)—The patient, a child seventeen days old, had been perfectly well until the evening of December 6th, when it suddenly became fretful, and from that time up to the evening of the 8th, when seen by Mr. Fergusson, its sufferings seemed to increase. There was a painful tumour in the region of the left inguinal canal, and symptoms of strangulated hernia. The taxis had been tried without effect, and the indications seemed sufficient to warrant an immediate operation with the knife. On opening the sac a teaspoonful of turbid serous fluid escaped, and a portion of small intestine was exposed.

The testicle was observed at the lower end of the sac. The stricture was divided and the bowel easily pushed into the abdomen. The patient, soon after the operation, went to sleep; in the course of three hours, there was a copious evacuation from the bowels, and all suffering seemed to have ceased. In the course of a fortnight there was a firm cicatrix, with no tendency to further protrusion.

The author remarks, that the tightness of the structure had so far impeded the circulation in the cord and testicle, that the veins were greatly distended. The colour of these parts was purple, and the testicle was somewhat swollen, and not unlike a small sloe. He states his belief, that it is the prevailing opinion that inguinal hernia in an infant is usually congenital. To show that this is not always the case, he exhibited an example of very large protrusion of intestine in a boy only two years of age, wherein the distinction between the tunica vaginalis testis and the proper hernial sac is clearly shown.

The author states, that he has never seen the operation for strangulated hernia performed on any patient under the age of puberty, excepting in this instance, and few surgeons have had occasion to use the knife in infants thus affected. In conclusion, the author refers to several cases on record, and to two communicated to him by Mr. Curling, in which an operation for hernia was performed at an early period of life, but he has not succeeded in meeting with any case of operation at an age so early as that of the patient whose case he has brought before the Society.

Mr. Cæsar Hawkins had operated for hernia upon a child under seven weeks of age. It was brought into the hospital in an all but dying state. The hernia had been strangulated some days. The little patient was pale and comatose. The operation, however, was successful; but the child became again subject to hernia after two or three years. He did not think strangulation at an early period in life was so rare as Mr. Fergusson seemed to imagine; for he (Mr. Hawkins) had seen several cases in very young children. In one case in which a hernia was strangulated in a child three weeks old, he feared that he should have had to operate, but the strangulation was eventually removed by constantly dropping ether on the hernial tumour. In a case at twenty-two months of age, the operation was re-

quired. He had seen several cases under puberty requiring this proceeding. He had operated successfully on a patient ninety-nine years of age.

Mr. Le Gros Clark had lately operated at St. Thomas's Hospital on a lad fourteen years of age, who was admitted into the institution with symptoms of strangulated hernia, which, as the taxis and the other usual means failed to remove, he proceeded to relieve by operation. The scrotum was found to be empty, and on examining the opposite abdominal ring, it was found blocked up by the testicle. The hernial sac lay in reference to the external abdominal ring like crural hernia. When the hernial sac was exposed, it was found to contain about an ounce and a half of limpid fluid, which escaped. The sac was laid open, and six inches of dark-coloured intestine and the testicle were exposed, lying together. The stricture was tight, but was divided, and the protruded bowel returned. The case did well; the testicle on the opposite side was retracted into the abdomen, but the testicle on the side operated upon kept its status. Now it was necessary to keep up pressure on the ring, or the hernia would again descend. Pressure might produce atrophy of the testicle; in what way, then, could it be safely employed?

Mr. Fergusson thought, that in the case related by Mr. Clark, the safety of the patient would be ensured, and the testicle uninjured, by the application of a truss, with a pad so hollowed out, as to prevent its exercising pressure on the testicles, and keep up the hernial tumour. With respect to protrusion after the operation for hernia, he had seen it occur, as had probably most surgeons. Some had said that the cicatrix left by the operation was sufficient to prevent such protrusion, but this was not the case. He had brought forward the case detailed to the society as an instance of an operation for strangulation being required at a very early period of life. Strangulation, he was well aware, was not so uncommon in young children, but these cases were generally relieved by the taxis. In this instance, however, a more prolonged application of this proceeding would have been a trifling with life; the parts were swollen and tender, and the operation was imperatively called for. He proceeded at once to perform it; and he thought the case, taken altogether, was a desirable one to bring before the society, as an encouragement to surgeons not to despair in cases of this description.

Mr. Cæsar Hawkins had seen several cases in which a truss had been applied to the groin in a condition of parts similar to that in Mr. Clark's case. The pad of the truss should have its lower part concave, whilst its upper portion should press upon the external ring. With respect to the necessity of wearing a truss after operation, he had seen one instance, in consequence of neglecting this precaution, in which an operation was necessary to be performed a second, and in another instance, a third time.—*Lancet*, Jan. 23d, 1847.

45. *Surgical Treatment of Croup*.—M. GUERSANT, Jr., agrees with MM. Bretonneau, Trousseau, Guersant, Sen., Blache, and the best authorities, that to constitute croup the presence of false membranes in the larynx is essential. The disease, he observes, may commence at the tonsils, in the bronchi, or suddenly in the larynx itself. In the first case there is more or less redness of the pharynx with swelling of the tonsils, and, what is of vast importance to notice, these last are covered with little white patches, which sometimes extend as far as the velum or uvula.

The medical means for treating croup are very limited. *Depletion*, once so freely employed, under the idea that the disease was a simple inflammation, is very rarely of any utility in croup, and oftentimes injurious. *Emetics* have proved far more useful as adjuvants, by favouring the detachment and expulsion of the false membranes; but alone they are not to be relied upon. *Mercurials*, especially when used early, have often exerted excellent effects upon the disease; but for these to be of service the dyspnœa must not be very urgent, or the patient very enfeebled, and when used alone they have effected but few cures.

It is upon surgical treatment we must usually most rely, and by it we mean the application of caustics to the pharynx, as well as the operation of tracheotomy. Various fluid or solid substances of this nature have been employed, but we prefer the *nitrate of silver*. Weak solutions suffice at the earliest stage of the disease, when there is little else than the pseudo-membranous deposit upon the pharynx. There are indeed cases in which these are not seen at all, the false membranes being at

once deposited in the larynx, but these are rare; and frequently the membranes are not detected in the pharynx, because the first period of the disease has already passed away. At an early period the symptoms are but little urgent, and the physician, little accustomed to treat children, often neglects to examine the throat. With M. G., whenever a child manifests any febrile reaction, *such examination is an invariable rule*, and in this way he has frequently been enabled to detect the approaching disease, which would not otherwise have been suspected. He instances a case in which M. Trousseau was induced fortunately to examine the throat by observing the surface of a blister to be covered with a slight fibrinous layer—such false membranes being liable to form on the surface of any wound in those who are the subjects of diphtheritis. At first, and while the tonsils are covered with this plastic exudation, the symptoms are not severe, so that attention is not directed to the throat. But this is a precious moment for the surgeon: for he may now frequently arrest a disease, which if allowed to go on is usually beyond his art.

While employing the solid caustic, the child should be held by a strong assistant; for it is rare that the practitioner can effect this operation unaided. The tongue must be held down by a very *large spatula*, or by the handle of a *large spoon*. If a small instrument be used you cannot effect your object. We generally employ a large wooden tongue-depressor. The caustic should, for fear of accidents, only project very slightly from its case; and many practitioners, on this account, prefer using solutions. We have already said that, at the earliest stage, the use of even a weak solution three times a day suffices. We should apply the caustic beyond the margin of the false membrane as well as to itself, as this will prevent its extension. In serious cases the solution must be very strong (1 part to 3 or 4 water), but then need only be used once daily. It may be applied by means of sponge fixed at the end of a piece of whalebone by sealing wax. The caustic frequently dissipates the false membranes upon the amygdalæ, and yet they extend to the epiglottis. Caustic is still our best means. A larger sponge is now required, which must be fixed upon a strong whalebone, bent at an obtuse angle. The surgeon places himself on one side, and introducing the sponge right to the base of the tongue, executes some semi-rotatory movements. Sometimes the epiglottis is raised, and the fragments of false membranes detached from its inferior surface, which may be known by the paroxysm of dyspnœa this gives rise to. The caustic requires to be repeated three or four times in the twenty-four hours.

When, in spite of the energetic use of these means, success does not follow, we must have recourse to *tracheotomy*. M. Guersant has, next to M. Trousseau, performed this operation more frequently than any one else, and speaks unhesitatingly of the propriety of undertaking it, and believes that numerous failures arise from its being too long deferred. When the child will certainly die asphyxiated without, why should we hesitate to open the trachea? for cases have occurred in which the patient has lived, although false membranes have penetrated *even into the larger bronchi*. The vital point which cannot bear the slightest presence of these is the *cordæ vocales*. Practitioners who are aware that a certain number of these cases have proved successful, cannot doubt the propriety of operating. M. G. usually employs a straight bistoury, and has several small sponges mounted on whalebone and a curved ring-forceps at hand. If the morbid productions do not reach into the trachea we have only to maintain the aperture patent; while, when they extend lower down, their removal may be attempted by means of the bent forceps. Among the numerous modifications of canula employed to maintain the wound open, that of M. Trousseau is an excellent one. It consists of a *double canula*, so that, when obstruction occurs, the *inner one* may be changed without disturbing that which remains in the wound. This practitioner, as well as M. Bretonneau, prior to introducing the canula, passes small sponges, moistened with a solution of nitrate of silver, into the trachea: but unless false membranes are obviously present, M. G. doubts the propriety of any such interference, and does not have recourse to it. The canula may usually be removed at the end of from eight to twelve days, but sometimes requires to be retained for 20 or 30.

The air of the chamber should not be kept too dry and hot. To render it sufficiently humid it is a good practice to evaporate some emollient decoctions in the room several times a day. It is a difficult thing to maintain an equable tempera-

ture about the child, but for a long period I have experienced the utility of wrapping around the neck, without tightening it, a light woollen comforter having its meshes very widely knitted. By this contrivance, the air, before it reaches the trachea, becomes sufficiently warmed. When the canula becomes obstructed, the inner canula should be removed and cleansed, instead of thrusting sponges into it, which may only increase the obstruction. When it is deemed proper to cleanse out the trachea, only the most delicate whalebones must be employed. When indurated concretions form, both canulæ should be removed and the patient encouraged to expel them by coughing. I have never removed the canula before the tenth day, but M. Trousseau has done so on the third or fourth. He advises us not to remove it suddenly, but for one, and then for several, hours daily.

Finally, let us observe that croup is so grave and so constantly mortal a disease, that we should frequently have recourse to this operation before it reaches its last stage. "While tracheotomy was almost always a powerless weapon in my hands," says M. Trousseau, "I always recommended its performance as late as possible; but now I have met with numerous instances of success, I always say it should be performed as early as possible, as soon in fact as no other chance of success remains." Of 136 children operated upon, M. T. has saved the lives of 32; and, without being so fortunate as that practitioner, in 36 cases I have met with four successful ones—a success sufficiently great for us to lay it down as a law that we should interfere rather than allow the infant inevitably to die.—*Med. Chirurg. Rev.*, July, from *Gazette des Hôpitaux*, Nos. 48 and 52, 1846.

46. *Partial Amputation of the Foot*.—Dr. GEOGHEGAN narrated to the Surgical Society of Ireland, (Dec., 1846), an instance of partial amputation of the foot according to the method of Chopart,* and exhibited casts representing the condition of the member six weeks and six months after the operation. The subject of the procedure was a man aged about 30, previously healthy, who had sustained a severe injury of the foot, lacerating the soft parts through their entire thickness, and fracturing the metatarsal bones less than an inch behind their distal extremities. By employing the internal projection of the os scaphoides as a guiding point, no difficulty was encountered in reaching the articulations to be opened, the dorsal incision commencing about an inch in front of the most anterior part of the internal malleolus, and carried transversely to the outer margin of the foot. The flap formed from the sole was as long as the state of the soft parts would permit, and furnished a full covering for exposed surfaces of the calcis and astragalus, the encrusted cartilages of which were carefully removed. In addition to the anterior tibial, no less than six arteries in the sole of the foot demanded ligature. The cure proceeded favourably; the ligature of the anterior tibial artery came away on the seventh day; the cicatrization, however, of that part of the wound which corresponded to the anterior articular surface of the astragalus was somewhat slow, and a small portion of the integument of the upper margin of the wound ulcerated. During the progress of the case a small abscess formed above the internal malleolus. When the wound had advanced towards closure, a swelling, covered by red integument and simulating an abscess, appeared above its centre; as some of its characters were dubious, it was cautiously explored by a grooved needle, and *synovia* discharged. This swelling, which appears to have been formed by the closure (inferiorly) of the tendinous thecæ, still remains.

The patient wears a low-heeled boot, and exhibits but slight lameness, walking easily with the aid of a stick. Dr. G. observed, that the traction of the heel was by no means considerable, the pressure when in the erect posture being sustained altogether by the sole of the foot, commencing at a point about two inches anterior to the extremity of the heel. The retraction (as shown by the casts) evinces no tendency to increase, but on the contrary has rather diminished, thus indicating, in conjunction with other published cases, that the preponderant action of the gastrocnemius, &c., over the extensor muscles, is not such in degree as to constitute any valid objection to the method of Chopart. It should be also borne in mind, that the extensors, ultimately acquiring new attachments, resume no inconsiderable amount of their original power. In cases like the present, the boot may

* Read before the Surgical Society of Ireland, Dec., 1846.

be furnished with an iron plate in the sole, and the heel of both boots should be low. Especial care should be also taken to prevent any pressure on that part of the cicatrix corresponding to the anterior articular surface of the astragalus, the latter being from its situation but slightly covered by soft parts. The formation of the inferior flap *previous to the opening of the articulation* (as practised by Mr. Syme) does not appear to possess any advantage that may not be secured by obvious precautions in the employment of the ordinary method.

Chopart's procedure seems to commend itself by its simplicity, as preferable to the operose and more painful method of Hey, which, although it saves to some an additional inch of the member, has not been shown to furnish a more useful stump.

It appears that in some of the later amputations, the difficulties of disarticulation in the tarso-metatarsal joints have been overcome, or rather evaded, by the employment of the saw, irrespective of the articular surfaces. This method seems to have proved satisfactory, although obviously open to theoretical objection.—*Dublin Med. Press*, Feb. 3d, 1847.

47. *Report of a Committee of the Surgical Society of Ireland, relative to the use and effects of Sulphuric Ether.*—A committee, consisting of Dr. Macdonnell, Dr. Bellingham, and Mr. Tuffnell, having been appointed by the Council of the Surgical Society to conduct some experiments with the vapour of sulphuric ether at the last meeting of the society, Mr. Tuffnell proceeded to read a report of the phenomena exhibited on that occasion, and the remarks of the committee upon the use of this agent:—

CASE I.—Mr. John Halahan, ætat. 19, healthy, but of rather delicate nervous temperament, inhaled (having his head and limbs held, and nose compressed), for two minutes, during which time the pulse fell from 130 to 44 beats in the minute, and after removing the apparatus from the mouth, rose to 108, remaining steadily at this point after restoration to consciousness.

On the ether taking effect, a profuse cold sweat burst out upon the forehead, gradually appearing from the period of insensibility, and increasing during recovery.

The apparatus having been removed from his mouth, he remained for nearly two minutes perfectly still and tranquil; the respiration not hurried; the pupil slightly dilated; eyes open and fixed; conjunctiva not much congested, and exhibiting no sign of having otherwise suffered from the experiment.

After this period he slowly flexed and extended all his limbs, the countenance at the same time being contorted, and expressive of *amazement, hesitation, and doubt*, but not of pain.

He was forcibly pinched during the whole period, but until the elapse of one minute and thirty-five seconds, he did not take any notice of this fact, though on restoration to consciousness, his first attention was directed to this infliction of pain.

He recovered slowly, giving the following description of his feelings from the first moment of inhaling:—

“12, Stephen's-green, January 21, 1847.

“SIR—In compliance with your wish, I beg leave to send you the following account of the effects of the sulphuric ether on me. While inhaling it, I experienced no particular sensation, except that of great difficulty of breathing. I could not avoid coughing three or four times. I remember having extended my legs, and stretched out my hands, once or twice, just before I was fully under its influence. I think, however, that by a strong effort, I could have prevented myself doing this. I have no recollection of the tube having been taken from my mouth, and did not distinguish between the time when about to be, and when I was completely under the influence of the ether. While under its influence, I believed that I was dreaming, but thought that I knew I was: what was occurring in reality appeared to be in the dream. I thought I had made myself appear very ridiculous by being so conspicuous. I heard many observations made by the gentlemen about me; but felt nothing the whole time. I saw all the gentlemen directly before me; they appeared to be looking fixedly at me. I observed that one of them, whom I knew, turned round and spoke to some one behind him. I afterwards ascertained he had done so. During the whole time I thought I heard a

great noise, as if I was very close to a mill, which was moving rapidly round; this sensation increased as I recovered. When recovering I felt as if I were awakening. The first thing that made me know I had not been dreaming was Dr. Leeson stretching out his hand to shake hands with me, and his asking if I knew where I was. I had no idea how long I was under the influence of the ether. For nearly half an hour after I had recovered from the immediate effects, I felt in a stupid state, as if not quite awake. I felt sick until I went to bed. I slept well all night, and felt quite well the next morning, and have been so since.

"My breath had a strong smell of the ether even until after breakfast.

"I am much afraid that you will find this account very confused.—I am, sir, your obedient servant,

J. H. HALAHAN.

"— Tuffnell, Esq., F. R. C. S. I."

CASE II.—Stout, athletic sanguineous-tempered young man, in robust health, inhaled for two minutes and a quarter (under restraint), during which his pulse fell from 120 to 40 beats in the minute. The pupil became dilated to a considerable degree; the conjunctiva was gorged with blood; the temporal vessels greatly distended; the face became slightly livid, and shortly before coming under the influence of the ether, the lower extremities were agitated, and he shook the forearms as if wishing to get hold of the apparatus and remove it from his mouth, these symptoms evidently evincing distress from a feeling of suffocation.

On the tube being removed from his mouth, he assumed an attitude of playful sparring, which was speedily followed by violent muscular efforts, the countenance being distorted, and the face turgid with blood, the features showing no expression but that of vacancy and distress. In this state he remained for three minutes, struggling very violently, and demanding to be set free, requiring much restraint. He recovered gradually, unaware of everything, and saying he felt no pain or annoyance. Water and cold wet cloths were repeatedly thrown and flapped in his face, but he knew nothing of this treatment, or of any one having pinched his hand.

"January 18, 1847.

"DEAR SIR—According to your request, I briefly state the different and varying sensations I felt whilst under the effects of sulphuric ether on Saturday night week. The particulars are as follows:—

"On my taking the chair, I felt much excited; Dr. Benson said my pulse was 120—its usual pulsation is about 70. When the apparatus was applied to my mouth, I could not breathe, owing, I believe, to a constriction of the glottis. When I found this, I was determined to hold on as long as I could, as I heard the first student who presented himself say he was affected in a similar manner. I therefore opened wide my mouth, and let the vapour of the ether in, when in about half a minute I found I could breathe quite freely; almost immediately my sight became very acute, shortly followed by a slight dimness, objects appearing to me to fluctuate. At this time breathing, I imagine, was solely carried on by the aid of the diaphragm. I then felt something rising on the right side of my head, followed by a most thundering noise.

"It may be right for me to mention that my head was bent to the right side; my brain then became very much disturbed, and if I may so express myself, as if boiling, with a dull singing in my ears. I then heard that my pulse was 40, and from this time I became unconscious of what occurred, until I found myself standing up in a most furious and violent passion. I was much perplexed and irritated with all about me, but for what reason I knew not. I recovered my senses shortly after, and whilst so doing, the noise both in my head and ears grew louder and louder.

"I may also add, I was not aware that cold water had been thrown on me, nor did I feel myself wet until I got home, nor even then, until I opened my clothing and found my shirt wet. These particulars, which I have endeavoured to state, are the real and unfeigned sensations I felt whilst under the effects of sulphuric ether at the Surgical Society on Saturday night week.—I am, dear sir, yours most respectfully,

WILLIAM HENRY ARTHUR, M. S.

"Dr. Bellingham."

opening of the sac and division of the stricture, the patient is perfectly sensible. Two other cases were submitted to the influence of the vapour, but both refused to persevere with the inhalation till any effect could be produced.

Remarks.—From these two different series of phenomena, it would appear that constitution or idiosyncrasy modifies the action of the vapour. That in some such muscular action is excited as to preclude the possibility of operating at this time; that in others a passive state most favourable for the use of the knife is produced.

1. That when practicable, therefore, a trial should be made prior to the operation.

2. That where there is reason to apprehend any derangement of the cerebral circulation or organic disease of the heart, it should be employed with the greatest caution.

3. That the lungs being primarily influenced, and much irritation in the air passages sometimes produced, as evinced by the frequent cough, in persons labouring under disease of the lungs it might be injurious.

4. That having as yet had no opportunity of conducting experiments on the lower animals, it is impossible for your committee to say with what safety or to what extent the inhalation might be carried and the effect reproduced after partial restoration to consciousness.

5. That the operations most fitted for its employment are those where large and painful incisions have to be made, as in amputation—cases that can be speedily terminated.

The apparatus used on these occasions consisted of a double-headed glass bottle, in one of which was placed a glass funnel containing a conical shaped sponge soaked in sulphuric ether.

To the other was attached a flexible mouth-piece for inhalation, and a second opening for the expired air, which was prevented from re-entering the bottle by means of a valve, the peculiar mechanism of which was exhibited to your committee by the inventor, Mr. Millikin, surgical instrument maker to the college.

The whole apparatus was constructed by Mr. Millikin, of the efficiency of which your committee beg to express their entire approbation.

Dr. BUTCHER said, before the report which has just been read passes from this society, there are some points on which I would wish to make a few observations. We all know that a state of insensibility can be produced by the inhalation of ether, and we likewise know it creates in some subjects symptoms the most alarming in their character, such as delirium ferox, tetanic convulsions, and prolonged stupor. What I wish particularly to dwell on is its practical bearing in reference to capital operations. I would wish to ask any gentleman who has operated while the patient was under the influence of ether vapour, whether union by the first intention followed as rapidly as after the ordinary method; because from what I have observed myself, I doubt not there is a remarkable effect produced on the capillaries of the part which is inimical to that result. It has been trumpeted about as a wonderful agent prior to capital operations. Now, let us see its applicability. In *amputation*, the muscles are cut when they are relaxed and in a flaccid state, and their power of retraction removed: here, then, unless the bone be cut much higher than is required by the ordinary method, a conical stump is likely to follow; for when the nervous energy is again restored to the divided muscles, they are drawn up far beyond what was calculated upon by the surgeon; in many cases we have not the option to accommodate ourselves to this new method. In *lithotomy*, how often have I seen Mr. Cusack extract the stone in a few seconds. Would it for this momentary pain, then, be desirable to subject the patient to so *dangerous a remedy*? Granted even that it would, does the insensible condition produced facilitate the steps of the operation? (This is the point on which I wish my objection to hinge.) I think not, for all the parts lie dead and flaccid before the knife, as it were, in the dead subject, the operation on which is admitted by all to be more difficult than in the living; of course able hands may surmount all difficulties, and I would say unhappily it is so with regard to this dangerous therapeutic agent: therefore we have such names as Liston, Syme, Key, &c., giving it an ephemeral brilliancy, a false colour. In *hernia*, the influence which it exerts, even in its most favourable bearing, cannot be continued long enough, and when you come to the most critical part of the operation, the

Aneurism of the extremities is, I am proud to say, by the surgeons of this city almost removed from the list of capital operations, by the substitution of pressure, while the most sanguine expectant in the use of ether cannot hope to keep his patient under its influence while securing the vessels either in the neck or abdomen. We have, on the high authority of Dr. Jacob, its inapplicability to the more delicate operations on the eye. With regard to tooth-drawing and such like minor matter, I sincerely hope the *curiosity*, at least amongst medical men, has been sufficiently satisfied, for it is a kind of sporting with life beneath the sagacity of a medical practitioner. There is one class of cases, and only one, where I think it will always be advantageous, and to which I conceive it peculiarly applicable—that is, where there is an indefinable terror of the knife, when the person almost in every instance predicts with accuracy the result of operation in death: this I have seen verified in three instances myself, though for trifling operations. The supposed advantages thus arising from the inhalation of ether in either amputation, lithotomy, hernia, aneurism, operations on the eye, tooth-drawing, &c., &c., will, I am convinced, evaporate as quickly as the fluid employed; the only class of cases at all to which it is applicable, being those I have last mentioned.

Dr. GEOGHEGAN begged leave to observe that two cases had lately been recorded; the one, an operation for hernia, by Mr. Morgan of London; the other, lithotomy, by Mr. Charles Guthrie, the patients in each case having been first placed under the influence of the ether, and from all the statements made, there was no reason to conceive that any bad consequences had resulted. Mr. Guthrie's patient remained eighteen minutes under its influence, and on being questioned after the operation, stated that he had experienced no disagreeable sensation, that he had not the slightest consciousness of pain, though perfectly aware of what was going on around him. For instance, the operating theatre was so crowded with spectators that some were looking through the sky-lights from the roof, and the man mentioned this very circumstance of his own accord, when speaking of his sensations during the operation. The fact of a patient's retaining consciousness while sensation is destroyed, appeared to Dr. Geoghegan a point of much interest in connection with this subject. The excito-motory function of the spinal marrow would appear to be partially unimpaired, for the limb is frequently seen to move or shrink, as it were, from the knife, yet there exists a total insensibility to pain. It would hence also appear that in some instances the functions of the spinal marrow are influenced concurrently with those of the brain, and possibly through the intervention of an action on the latter organ, while in others they are independently affected.

Dr. HARGRAVE observed in reference to the question as to what cases of inhalation of ether ought not to be employed, that the results of experience alone could enable us to decide. There was one operation, however, he considered, in which the surgeon, with a due regard to his own character or the life of his patient, could not think of applying it; he alluded to the operation of tracheotomy; very serious consequences he apprehended might result from its use here. Mr. Orr could relate to the society the particulars of a case experimented on by him at the City of Dublin Hospital, and which was accompanied by phenomena entirely different from anything observed in America, in England, or in this city before—phenomena of such a serious nature, he would say, as to warn the profession against a hasty or indiscriminate use of this vapour.

Mr. ORR said the case in which he had used the ether was one in which he wanted to perform Mr. Syme's operation for lipoma of the testicle, considering it a sufficiently painful operation to induce him to try the effect of the vapour. Drs. Hargrave and Benson took notes of the steps of the operation, and it was found—as mentioned recently by Mr. Tufnell—that the pulse, which at the time of the patient's being placed on the table, was at 110, in about two minutes fell rapidly to 40; it was exceedingly weak and compressible also, though the sounds of the heart were very distinctly heard by the ear placed over the chest. At the end of three minutes, a certain degree of consciousness was retained, and the relaxation of the muscular system was such that an involuntary discharge of urine and feces took place, followed in a few seconds more by stertorous breathing. The man then became completely unconscious and insensible to pain. At the expiration of eight minutes, the operation was very nearly completed, and the patient answered

questions, though still insensible to pain. After the great muscular relaxation alluded to, some strong contractile efforts were subsequently made; the toes were flexed with considerable force, and the sterno-mastoid muscle was observed by Dr. Hargrave to be in a state of extreme rigidity.—*Dublin Medical Press*, Feb. 10, 1847.

OPHTHALMOLOGY.

48. *Foreign bodies in the Eye*.—Professor JACOB made a very interesting communication on this subject to the Surgical Society of Ireland, a report of which we transfer to our pages from the *Dublin Medical Press* of Dec. 9th, 1846.

The Professor states that “in breaking or dressing stones, it frequently happens to stone-cutters and others that a particle of the stone is driven with considerable force into the eye. This it was that happened in the case to which he was about to direct the attention of the society. A particle of stone had been so projected, and lay in the anterior chamber between the cornea and iris, but the interesting fact connected with this was that it should have remained in that situation for four years without having effected the destruction of the organ. He had extracted it the other day, and had every hope that he would ultimately be able to save the eye. The lens is opaque, and the pupil eccentric, and it will probably be yet necessary to break up the lens more effectually than could have been done in the course of the operation of removing the foreign body. In cases of this kind, those men must often suffer who are employed in dressing mill-stones, cutting or breaking silicious rocks; such accidents seldom occurring from cutting granite or limestone. The fragment in the present case was at least a fourth of an inch long and a sixth in diameter, and very sharp. Cases in which foreign bodies of this description had passed into the eye without destroying it, have (Professor Jacob observed) been recorded by Mackenzie, Lawrence, Wardrop, and others, so that, as he had before remarked, there was nothing very new in the case now before the society, but its pathological interest he considered of the first importance, showing as it does that when a foreign body of such a description finds its way into, and remains for such a lengthened period, in an organ of all others in the body so profusely supplied with nerves and vessels without causing its destruction, it need not to be considered necessary to search with such anxiety after foreign substances that find their way into other and so much less important parts of the body, under the apprehension that they will make their way eventually to the surface, instead of which they often remain at rest after a little time, if the part be kept quiet.

Another case had come under his care some years ago: it was that of a little boy into whose eye a portion of a copper gun-cap had passed through the pupil, and lodged in the crystalline lens itself, where it lay without producing any distress or mischief for two or three years. But the very curious fact connected with it was, that the copper never lost any of its metallic brilliancy, and never became even in the slightest degree corroded or oxidated. This case he temporized with, and the sequel proved very instructive: the lens became absorbed, and the bit of copper got entangled in the opaque capsule, and believing that it might not be possible to extract it, the patient being young and unmanageable, he still continued to temporize with the case, and lost sight of the boy for some time.

In about a year after, however, he again came under his notice, and now the copper cap had disappeared, and the anterior and posterior chambers were filled with blood, as if from some recent injury. The pupil was dilated, but the eye was spoiled. The cap being nowhere visible, it was probable that it had fallen to the bottom of the eye, so Professor Jacob considered it better to leave the eye alone, and the case was lost sight of. It is not alone in the anterior chamber, or in contact with the iris or crystalline lens, that bodies of this kind stick, but sometimes under the conjunctiva itself, though (Professor Jacob observed) from the toughness of the parts, it did not often happen; this, however, occurred in the case of a young lady, whose younger brother, in playing with a toy-gun, drove a portion of the cap into her eye, where it lay under the conjunctiva, its situation

being indicated by a small blackish tumour underneath that membrane. Having felt the little body with the point of a needle, he was enabled to remove it with the scissors without difficulty. In this case the foreign body had lain for nine months without producing any material mischief. Many instances are recorded in which bits of straw, pieces of rush, twigs, and such matters, become impacted and where (Professor Jacob observed) one would never suppose they could lie quietly for any time, and that not alone beneath the conjunctiva, but in the fold of reflection of this membrane to the upper lid. Here they sometimes lie without attracting any attention until the production of a fungous tumour over the foreign body brings the case under the notice of the practitioner. A gentleman presented himself under circumstances of this kind to him, and on attempting to remove the tumour with a fine pair of scissors, he found that he could not do so in consequence of some hard unyielding material, which he extracted after snipping off the tip, and which proved to be a portion of the flowering part of a rush half an inch long, which had probably been driven into the part some months before; the patient having had a fall from his horse in the field about that time.

Now, (Professor Jacob observed,) the question suggests itself as to how cases of this kind are to be dealt with; should they be temporized with? This he considers we are perfectly justified in doing if the body has lain quietly for a considerable time, and more especially, if it be exceedingly small; but if the foreign body is the source of a certain amount of irritation, the distress experienced will of course compel the surgeon at once to remove it. In the case first alluded to, and a specimen of which had been sent round, there had been, as he had stated, a great deal of inflammation, followed by an eccentric pupil and opaque lens, yet no shrinking of the eyeball or other indication of destructive inflammation. With respect to the mode of procedure for the removal of foreign bodies in the interior of the eye, Professor Jacob would recommend the method pursued in the case of the fragment in the anterior chamber, so little effusion or distress had followed upon it. In such a case it is supposed that it is only necessary to make an incision in the cornea, and let the foreign body pass out as the lens would in extraction; the operation is, however, attended with greater difficulty than might at first sight be expected.

In the first place, if recently lodged in the eye, a good deal of difficulty attends its extraction. It is stated by Lawrence, Tyrrel, and others—though he (Professor Jacob) was not satisfied of the fact—that these bodies become adherent, that they become imbedded or enveloped in lymph. This, to be sure, one might expect, arguing from what occurs in other parts of the body under similar circumstances, but such was not the result of his experience; for instance, in the case under consideration, the particle of stone was perfectly clean and as distinctly visible in the anterior chamber, as if placed for examination in a drop of water. There was positively no lymph coating either on the stone or in the case of the copper cap; indeed, he could not clearly see where the lymph was to come from; if lymph were shed, it would of course be the result of inflammatory action, and the foreign body would become adherent in consequence.

He would not, as he had said, deny that such might have occurred in other hands, but it was not so with him, and perhaps the statement was made by others under the conviction that a foreign body could scarcely remain in such a situation without becoming encysted. At the same time in the operation of extracting such substances it is well to be aware that they may be and probably often are adherent. In proceeding to extract them, as a general rule he would say, that the incision should be as large as possible, for the difference of mischief to the eye, between a small and large incision, is as nothing compared with the difficulty of dragging the foreign body through a small orifice. This will more particularly be necessary if the foreign body be a stone, as happened in the case now described, in which it was only after a second or third time that Professor Jacob was enabled to extract it. Having waited between each attempt at extraction for the patient to become composed, and the spasmodic action of the muscles to subside, he was at length enabled to remove the fragment with the aid of the curette, and not without a good deal of force employed in disentangling it, for the little body was no doubt adherent, though not at all imbedded or encysted. Notwithstanding a good deal of violence having necessarily been employed, the case is going on

well, there being no inflammation, such as would lead to the destruction of the organ. The man has already so much vision as to satisfy Professor Jacob that ultimately the eye will enjoy a useful amount of it. At this stage of his remarks, Professor Jacob said, it became a question for consideration whether in cases of this kind seen immediately after the accident, the practitioner would proceed at once to the removal of the foreign body. By all means, he would say, if he sees the case in the course of the day upon which the mischief has been done, it ought, if possible, to be removed at once, and this may sometimes be effected with the greatest facility, while in other cases the greatest difficulty is encountered. Thus it will happen that to remove a body lying in the anterior chamber there is nothing to be done but to pass the knife, cut through the edge of the cornea, and the foreign body immediately drops out; but in other instances, in spite of the utmost caution, it falls backwards into a fold of the iris, and entirely disappears from view; following it, however, with the curette, the extraction may be effected, notwithstanding that the lids are squeezed up, and every effort made by the patient to turn the eye away from the operator. In this college, many years ago (Professor Jacob said) a case of this kind occurred in a pupil of the institution, who, while at work in the laboratory, had a splinter of glass driven into his eye from the bursting of a glass vessel. The particle passed through the cornea, and on seeing him immediately after, Professor Jacob observed the bit of glass lying in the anterior chamber, with one point resting against the cornea and the other against the iris. Having made a considerable opening with the extracting knife, the foreign body almost disappeared at first, having fallen into the fold of the iris, but with the curette he was fortunately enabled to lift it up, and the extraction was made without any subsequent injury to the organ. This case occurred in a gentleman who is at present a fellow of the college.

Professor Jacob next alluded to the minute foreign bodies which so frequently become fixed in the cornea, and which cause so much trouble to the practitioner in this country, where stone-cutting, quarrying, and stone-breaking, is so common; and when, as elsewhere, so many working at the anvil, bench, and lathe, are liable to such accidents.

The foreign bodies in these cases (Professor Jacob observed) are either particles of the steel of the instruments used by the workmen, or portions of the stone itself, but in nine cases out of ten they are particles of the steel, and it becomes of importance to ascertain in what state the steel is at the time. As regards the difficulty of removal, a great deal depends on the size of the particle, which is sometimes wonderfully minute, so much so as to become scarcely visible after a great deal of trouble and minute examination, and occasionally only with the assistance of a lens of two and a half inch focus, after twisting and turning the eye up and down, in and out, in all directions. Yet so small a particle will be productive of the greatest mischief. In general those particles may be removed with great ease, requiring only to be touched with the point of a blunt instrument very cautiously, such as the handle of a camel-hair pencil, pared down very fine, or the convex part of his own cataract needle. If only adherent to the conjunctival layer, the particle slips off by the gentlest means, and if that does not succeed, or if the foreign body is more deeply imbedded, if it has got into the structure of the cornea, its removal is more difficult. If the foreign body has been projected with violence, and has become imbedded in the cornea itself, it must be lifted out of it. The point of the needle should be held within a very short distance of the foreign body before it touches the cornea, waiting quietly until the eye becomes steady; it should then be struck in beneath it, and the particle dug up, if not detached by gentler means. The operator should never give up until he has fairly lifted it from its situation. Many surgeons at the other side of the water—among whom is so high an authority as Mr. Lawrence—recommend such cases to be left to nature, saying that a little spot of ulceration is formed round the foreign body which thus becomes washed away by the secretion of the tears; but this ulcer ultimately leaves behind it an opacity. As regards those cases in which small particles of steel have been projected into the cornea, and the particles so dissolved away that only a small portion of the oxide adheres to a speck of ulceration, this is to be removed with a few touches of the point of the needle, so as to prevent the occurrence of any permanent opacity. But of all circumstances connected with

this subject (Professor Jacob observed) that which is of paramount importance to the practitioner refers to the condition of his patient's general health at the time of the accident. In this country these accidents to the eye are in themselves generally trivial, but the worst results sometimes occur to the subjects of them from an unhealthy state of the constitution. He had known total blindness to occur in stone-breakers from this cause much oftener than would be believed. Even when the foreign body is got rid of a destructive inflammatory process is set up under these circumstances which ends in the loss of the eye. A whitish sloughy ulceration takes place in the injured part, purulent matter is deposited in the anterior chamber, and at last the sloughy ulceration extends through the cornea.

To prevent or remedy this, attention must be paid to the state of the digestive organs and health in general. A yellow coated tongue is a sure indication of that state of constitution in general, and gastric organs in particular, which leads almost with certainty to this state of things, and this must be remedied by the usual medicinal and dietetic remedies, recollecting that such cases seldom bear or require depletion.

49. *Remarkable case of Injury of the Eye.* By JAMES DIXON, Esq., (*Proceedings of Royal Medico-Chirurgical Society*).—A woman received a blow with a fist on the left eye. The lids became much swollen, and she suffered great pain for some weeks, but she had no medical advice; and when she applied to me, eight months after the accident, all symptoms of inflammation had ceased.

The cornea was bright and clear, but all behind it was dark, and no iris was visible. On raising the upper lid, I noticed a slight mark, about half an inch long, just behind the upper edge of the cornea. It seemed as if the sclerotic had been divided there, and afterwards repaired by a substance rather less opaque than the original structure. Three or four little dots, like grains of gunpowder, appeared beneath the conjunctiva, close to the mark in the sclerotic.

The patient kept her hand over the injured eye, finding that otherwise the light dazzled it, so as to prevent her making good use of the sound one. By means of a convex glass, I threw light into the eye, to ascertain what had become of the iris: I could then look into the posterior chamber, and distinctly see the surface of the retina, but no vestige of iris could be discovered. A single upright image of a lighted candle reflected from the cornea, showed that the lens also was wanting.

Vision was limited to the perception of large objects. The patient could distinguish the outline of a sheet of paper, but could not see the letters printed upon it. I made her look through a magnifying-glass, and to her surprise, she could discern some of the larger capitals. I added to the glass a card perforated by a small hole, and she saw everything distinctly, and read easily a "brevier" type.

It appears probable, therefore, that the blow which she received ruptured the coats of the eye, and at the same time completely detached the iris from the ciliary ligament; that the lens was dislocated, and escaped, with the iris, through the wound: and the rent in the sclerotic had afterwards healed up.

The most curious feature of the case is this:—that after so extensive an injury, the function of the retina should have been preserved; the vitreous humour, also, being so far retained, that the figure of the globe was but very slightly altered, and its bulk not visibly diminished.—*Lancet*, Dec. 5, 1846.

50. *On Obscurations of the Cornea in their Histological relations with reference to the Practice of Ophthalmic Surgery.* By Dr. SZOKALSKI.—The author shows in the first place, that the cornea is composed of three membranes: the epithelium or conjunctival layer, the cornea proper, and the membrane of Demours. He examines the alterations which the elements of these tunics may undergo, and thence draws some practical conclusions. In nebular obscurations he has seen the epithelial cells smaller, and their layers more compact and adhering more intimately to the proper cornea. Complete staphyloma of the cornea lies principally in an anormal development of the cells of the epithelium; the adherence of the iris to the cornea is not essential, for staphylomas are seen without this accompaniment. Conjunctival xerosis is an alteration of the epithelium analogous to that which constitutes pityriasis of the hairy scalp. The red points sometimes seen in inflammation of the cornea do not precede the development of

vessels, as some authorities have taught. Inflammation of the substance of the cornea is the cause of the obscuration; the inflammation of the conjunctival layer, on the contrary, produces merely a development of phlyctenæ. The contained fluid examined under the microscope is limpid; sometimes inflammatory globules are discovered, particularly when the base of the phlyctena is turbid. In this case, there is a fibrinous deposit, which should be removed with a cataract-needle, for if it be left, the consequent suppuration is apt to involve the cornea itself. Pannus consists in a hypertrophy of the vessels, and a degeneration of the epithelium. Pterygium results from a hypertrophy of the submucous tissue which covers the sclerotic, and from the development of cellular tissue between the substance of the cornea and its epithelium.

The obscuration of the cornea, and its ulceration as a consequence of the section of the fifth pair of nerves, is not the result of a true inflammation; the author has never been able in corneas so altered, to discover either inflammatory globules or pus globules.

Inflammation assumes the same characters in the cornea as in other tissues; accumulation of blood in the vessels, granular exudation, inflammatory globules, pus. When, instead of passing into pus, the granular exudation becomes organized into filaments which unite the laminæ of the cornea, leucoma is produced. The treatment recommended by the author is that in general use, and is not based on histological researches; we may merely remark, that Dr. Szokalski enjoins salivation above all, and endeavours to produce that as rapidly as possible, by directing the mastication of pellitory root, horse-radish, &c., while the mercury is taken.

The membrane of Demours is not reflected over the anterior surface of the iris: the inflammation known by the name aquo-capsulitis, is merely a simultaneous inflammation of the iris and of the posterior surface of the cornea, and this coincidence depends on the fact, that the nerves and blood-vessels of these two parts are from a common source. The internal surface of the cornea is covered with a pavement-epithelium, the detached cells of which float in the aqueous humour, and constitute the globules which M. Donné regards as the proximate cause of muscæ volitantes. The fibrous layer of the membrane of Demours is never altered; it is found deficient, where an abscess of the cornea has pierced into the anterior.—*Monthly Journ. Med. Sci.*, from *Gaz. Méd. de Paris*, 31 Oct. 1846, and *Archiv. fur Phys. Heilkunde*.

51. *Amaurosis from Hydatid Cyst in the Brain.* By J. BERNCastle, M. D.—John S., aged 10, came under my care, about a year ago, for headache and impaired vision. The symptoms, at first irregular, gradually assumed the form of amaurosis, which, after some months, became complete; the pupils were constantly dilated; the pain in the back part of the head became most excruciating, and was not at all relieved by applications or remedies of any kind. Two months before the fatal termination, something burst internally, and a quantity of matter was discharged from the left ear, which gave great relief, the pain not returning for several weeks. At last the boy became emaciated, and although his intellect was more acute than is usual, the constitution gave way, and he died in a fit about a year from the first appearance of the disease. He desired a post-mortem to be performed, as he thought it might prove useful.

The brain was congested; and on examining the base, a watery tumour appeared to be passing out at the inferior portion of the left posterior lobe. This was carefully separated from the brain, when it was found to be a single hydatid cyst, about the size of a large orange, entirely filling up the posterior left lobe of the brain, which was not adherent to it; the tumour coming out entire, like a chesnut out of its shell, appeared like a round serous bag, containing a transparent fluid. Its pressure on the origin of the optic nerves accounts for the amaurosis; but that no paralysis should have occurred, and that the intellect should have remained unimpaired with such an extensive abnormal growth in the centre of the brain, is a remarkable instance of the liberties that Nature will sometimes take with an organ so essential to life.—*Lancet*, Dec. 12, 1846.

MIDWIFERY.

52. *Remarkable case of spontaneous rupture of the Uterus during labour—Recovery.*—The following case of rupture of the uterus, followed by recovery, is recorded by Dr. ROBQUET, of Givet, in the *Annales de la Société de Médecine de Gand*.

On the 8th of July, Dr. Robiquet was called to attend a female 32 years of age, who had been in labour 24 hours. She had previously had one child, and had never suffered under any symptom of uterine disease. Her second (the present) pregnancy, had gone on favourably until about two hours before Dr. R.'s visit, when during a strong uterine contraction she felt something suddenly give way within her. It seemed to her as if her bowels had been torn, but soon an apparent calm succeeded this painful sensation.

On M. R.'s entrance he found the patient's countenance flushed, her skin moist, pulse 90, small and thready, respiration slow, but regular; she had acute pain in the abdomen, with the sensation as of a weight rolling about in the middle of the belly and crushing the intestines, the uterine contractions were few and transient. The abdomen, depressed and irregular, had lost its rounded form, and permitted the limbs of the fœtus to be distinctly felt, and easily laid hold of through its parietes; and the child swayed from right to left, according to the movements of the patient. On vaginal examination, the head of the fœtus was felt at the uterine orifice. This latter circumstance induced M. R. to wait a short time, but finding that the powers of the mother were being rapidly exhausted, he applied forceps and extracted a female child, which lived only a few minutes. Scarcely was the fœtus expelled, when a soft rose-coloured slightly inflamed mass projected from the vagina and hung down between the thighs of the patient; this was at once recognized as part of the small intestine and the epiploon. M. R. at once returned the intestinal mass into the vagina, and gently pushed it onward to the fundus of the uterus, in which, rather to the right side of that organ, he found an opening large enough to admit his hand to pass through easily. Having at length with some difficulty returned the whole intestinal mass through the wound, he passed his right hand through the laceration so as to cover its aperture, while with his left, externally, he used frictions over the hypogastric region, with the view of inducing uterine contraction, and for the same object fifteen grains of ergot were administered. After the lapse of two or three minutes, M. R. felt the edges of the wound to approach, and the body of the uterus to make some efforts at contraction. After a second contraction had considerably diminished the diameter of the laceration, M. R. gently drew his hand out of the wound into the cavity of the uterus, and applied it to the inner surface of the rupture, to prevent any projection of the intestines through the opening. A second dose of ergot had been previously administered, and in a short time the uterus contracted so powerfully that he was compelled to withdraw his hand from its cavity. A dangerous attack of metro-peritonitis followed, which was successfully treated in the usual manner. Symptoms of inflammation of the uterus continuing on the second day after delivery, M. R. introduced two fingers into its cavity, and finding a small knuckle of intestine protruding, he successfully effected its reduction. From this time the patient gradually improved, and was at length restored to complete health.—*Journal de Méd. et de Chirurg. Pratiques*, July, 1846.

53. *Case of Vaginal Entero-hysterocoele reduced by taxis, and maintained in place by the introduction of sponges in the Vagina.*—The preceding case affords an example of laceration of the gravid uterus, with the protrusion of the intestines through the rent, and the following case is an example of a similar injury in the unimpregnated condition. The patient was 60 years of age, and had borne seven children; she suffered under prolapsus of the vagina, and having never applied for medical advice, nor adopted any remedial measures, the affection proceeded from bad to worse; the sense of weight and dragging in the hypogastric region, the tenesmus and dysuria became so severe, that she, by degrees, found herself less able to maintain the erect position, and was ultimately compelled to rest her head constantly upon her knees. On the night of the 12th October, M. le CHAPROIS, of Bolbec, was called to her assistance; upon entering the room he was

struck by the fetid cadaverous odour which exhaled from the bed in which the patient lay, in a state of profound prostration. An enormous mass of small and large intestines had protruded through the uterus, which was torn and dragged down by the mass; the womb was completely everted, and hung between the thighs; near the angle of the right Fallopian tube there was a laceration of nearly four inches in length, which had given passage to the intestinal mass. The patient had, for some hours, been speechless; the pulse was small and weak, and she was, to all appearance, moribund. M. le Chaptois, notwithstanding her desperate condition, having carefully washed and cleansed the viscera, returned them with his hand into the pelvic cavity; they were then maintained in their place by the introduction of a sponge into the vagina, and fomentations were applied over the abdomen, to check the occurrence of inflammation. During the succeeding night, the patient vomited frequently, and convulsions came on; but after free evacuations from the bowels, an amelioration took place, convalescence proceeded favourably, the appetite returned, and food was digested readily, and there was every prospect of an entire cure, when in the third month of convalescence the patient was attacked with peripneumonia, and she succumbed to that disease in fifteen days.

Dr. Chaptois expresses his regret, in which all must join, that a post-mortem examination was not made in a case where it would be so interesting to ascertain the result of the efforts of nature.—*Journ. de Méd. et de Chirurg. Prat.*, July, 1846.

54. *Rupture of the Uterus—abdominal section—recovery.*—The *Gazette des Hôpitaux* (Sept. 1, 1846) contains an account by Dr. KUHNÉ, of Weyer, in Austria, of a case of rupture of the uterus, occurring in a female 32 years of age, in her seventh pregnancy. The Cæsarian operation was performed, and the child and placenta extracted through the incision in the abdomen. The child was dead, but the mother was entirely well six weeks after the accident, and returned to her usual occupations.

55. *Wound of the Gravid Uterus—premature delivery—peritonitis—recovery.*—In our preceding number, p. 218, we noticed a remarkable case of recovery after a wound of the gravid uterus, and now add the following equally extraordinary one related by Dr. CZAJEWSKI in the *Journal de Chirurgie* for Dec. last.

The subject of this case was a peasant woman to whom Dr. C. was called on the 20th July, 1845. The patient was 27 years of age, of habitually good health, advanced five months and a half in her pregnancy, was chasing a cow with a pitchfork, which she held by the forked extremity. The handle of the instrument accidentally became fixed in the ground, and the woman, carried on by the rapidity of her movement, fell on the pitchfork, which penetrated deeply into the abdomen. Through both wounds a green and yellowish fluid escaped in intermittent streams, but the patient preserved sufficient strength to walk to her home, distant 500 metres (about one-third of a mile). During the following two days she remained in bed, and on the morning of the 20th of July was delivered by Dr. Czajewski of a still-born child. On the body of the fœtus a wound several millimetres in depth was observed on the lower angle of the left scapula. The placenta was also perforated in the vicinity of its circumference. Some symptoms of the peritoneal inflammation having been observed, leeches were applied twice, and mercurial ointment was rubbed over the surface of the abdomen, the wounds of which healed at once. One of them burst open eighteen days after the accident, and yielded passage to six ounces of fetid pus, and afterwards to fecal matter. This orifice was seated at one inch from the symphysis pubis, at four from the umbilicus, and rather to the right side. Its extent was a little more than one inch. The fistula was cauterized several times, and was completely obliterated within the space of five months.

56. *On Inflammatory Ulceration of the Cervix Uteri during Pregnancy, and on its Influence as a Cause of Abortion.* By J. HENRY BENNETT, M. D.—Dr. Bennett's attention was first drawn to inflammatory ulceration of the cervix uteri in pregnant females by M. Boys de Loury, one of the physicians of Saint Lazare, an hospital-prison in Paris, where women of the town found labouring under syphilis are

confined and treated. The speculum being used with all the patients, as a means of exploration (with those who are pregnant as well as with those who are not), M. Boys de Loury thus discovered that ulcerative inflammation of the cervix is not uncommon in pregnant women, and that, when left to itself, it frequently occasions abortion. His views were briefly narrated, in 1843, by one of his house-physicians, M. H. Costilhes, in a thesis sustained before the Paris Faculty of Medicine. M. Costilhes' cursory notice is the only one on the subject that has hitherto appeared, to his knowledge, in any language. Dr. Bennett has found that this form of uterine disease is by no means uncommon, that it plays a very important part in laborious pregnancies, and that it is a very frequent cause of abortion.

Local symptoms.—The local symptoms of inflammatory ulceration of the uterine neck, existing during pregnancy, are continued pain in the lower part of the back, in the lower hypogastric region, immediately above and behind the pelvis, and in the ovarian regions; a mucoso-purulent vaginal discharge; and a sensation of great pelvic weight and bearing down. To these we may add the data furnished by the touch, and by instrumental examination, which we will first analyze.

The sensation afforded to the touch differs considerably from that which is perceived, under similar circumstances, in a non-pregnant female. As is well known to all accoucheurs, the healthy uterine neck in the pregnant female undergoes successive changes as pregnancy advances, and as the uterus increases in size. On the other hand, it will be remembered that increased volume in the cervix, an open state of the os, and retroversion, coupled with a velvety surface, are the principal characteristic indications, to the touch, of inflammatory ulceration of the uterine neck in the non-pregnant state.

This partial similitude between the changes appreciable to the touch produced in the cervix by inflammatory ulceration and by pregnancy, renders it much more difficult thus to recognize ulceration in its milder form, and in the early months of pregnancy, in pregnant than in non-pregnant women. The distinction may, however, still be made by means of the following data, supposing the fact of pregnancy to be previously known. When inflamed, the tumefied cervix is more or less generally indurated, whereas, in the natural state, in the first months of pregnancy, it is enlarged, but soft, throughout its entire texture; the os is more open than is consistent with the stage of pregnancy; a marked soft, velvety, or mossy sensation is conveyed to the finger from the surface of the open os, and from the parts immediately adjoining.

When the inflammation is severe, and the ulceration extensive, the indications furnished by this mode of exploration alone are so decided, as often to enable us to recognize at once the nature of the case. The cervix is more voluminous, or the os is much more open, than is consistent with the period of the pregnancy, and it is also more or less generally indurated. The open os, instead of presenting a smooth surface, presents a very peculiar feel, of which the word velvety scarcely conveys an idea. The surface of the open os and cervix sometimes appears fungous to the touch, or, in severe cases, of a quaggy, pultaceous consistency. In the midst of this fungous surface may be felt, in some instances, small, movable, superficial indurations, of the size of a large pin's head, or larger, constituted by indurated and hypertrophied mucous crypts. On withdrawing the finger, it will generally be found covered with muco-pus, and sometimes tinged with blood; indeed, the vagina generally contains a great quantity of muco-pus, especially in its upper region.

On examining with the speculum, the cervix being retroverted after the first few months of pregnancy, it is often rather difficult to bring it fairly into view; the difficulty may, however, always be overcome, by using either the bivalve or the conical speculum, according to the case. When the cervix has been brought fairly into view, it will be found tumid, congested, of a livid hue, voluminous, soft, or only partially indurated; and on one or both lips, generally, penetrating into the cavity of the os, is seen a more or less extensive ulceration, sometimes covered with deep, long, fungous granulations. This great development of the granulations—this luxuriant fungousness of the ulcerated surface—is so marked in some cases, and so seldom observed in the non-pregnant state, that, when it is found, it may be said itself to constitute a system of pregnancy. I have, in several

instances, recognized the gravid state of the uterus from the peculiar appearance alone of an inflammatory ulceration of the cervix. The ulcerated surface, as I have said, is generally covered with a great quantity of muco-pus, but does not bleed so readily as might be supposed from the luxuriance of the granulations. The fungous character of ulceration of the cervix in pregnant women is sometimes so great, that it might occasion in the minds of persons unacquainted with the above facts, the impression that the patient is affected with malignant ulceration of the organ. This fungous character is generally assumed about the end of the third or fourth month of pregnancy, increasing gradually as it progresses.

The purulent secretion is generally profuse; but as there is often a considerable white flux from the congested parietes of the vagina, the pus from the ulcer becomes mixed with it, and loses its characteristic appearance. The patient thus appears merely to have a white leucorrhœal discharge, unless the touch be resorted to, when the finger is withdrawn covered with pus. In some cases of ulceration in incipient pregnancy, I have known there to be no leucorrhœal discharge, pus being secreted only by the ulcerated surface, and being absorbed in the vagina.

General symptoms.—The natural and inevitable result of such a state as the one above described is, that the general health suffers deeply. The patient, racked with pains, which, even when not very severe, are most harassing, from their persistence, loses appetite, rest, strength, and flesh; she becomes pale and thin, a prey to cardialgia, constipation, cephalalgia, palpitation, &c. Feeling easier in the reclining position, she lies down a great part of her time, and awaits her delivery, as the only probable termination of symptoms which she—and, generally speaking, her medical attendant—attributes to the pregnancy alone; whereas they are, in reality, the result of local uterine inflammation, susceptible, in many cases, of a speedy cure.

The inflammatory affections of the lower segment of the uterus, now described, I have found to be one of the most frequent causes of abortion; and I am firmly convinced that they are the unsuspected cause of a large proportion of the miscarriages that occur. In one of the cases which I have attended this summer, my patient, a young married woman of four-and-twenty, labouring under severe inflammatory ulceration of the cervix, miscarried five times successively within the first four years of her marriage, at the end of the sixth or beginning of the seventh month.

In some instances, notwithstanding the existence of severe inflammatory ulceration of the cervix, the patient goes to her full time, and is safely delivered. But the fact of extensive ulceration existing at the uterine neck, is a most unfavourable complication, rendering the patient (as well as the one in whom the ulceration is followed by abortion) very liable to general metritis, from extension of the inflammation to the body of the uterus; giving rise, even when this is not the case, to purulent and bloody discharges, which tend still further to weaken and debilitate the system. The real cause of these purulent and bloody discharges not being recognized, the therapeutic agents that are resorted to (generally speaking, anti-hemorrhagics, tonics, &c.) necessarily fail in producing any decided effect, until time, at last, with their aid, transforms the acute disease into a chronic one; the patient remaining for years a sufferer, until she eventually rallies, by the strength of her constitution and the progress of age, or sinks from uterine cancer, or some other organic disease.

Treatment.—Inflammatory ulceration of the cervix uteri occurring or existing during pregnancy, should be treated by local and by general agents, but more especially by the former. Astringent vaginal injections, repeated cauterization of the ulcerated surface, continence, and rest in the horizontal position, are the principal local means to be resorted to. As the general treatment must be guided by the general state of the patient, which may vary considerably, it is impossible to lay down any precise rules. I would merely remark, that mild tonics are the remedies which are the most frequently indicated, on account of the generally debilitated state of the system. The caustic that I most frequently use is the nitrate of silver, which must be freely applied, and carried into the cavity of the os, if the ulceration extends so far, as it mostly does. I rather avoid the more energetic caustics, such as the acid nitrate of mercury, wishing to localize as much as possible the action of the remedy. I do not, however, hesitate to apply it to

the luxuriant fungous ulcerations which I have described, and which the nitrate of silver often does not modify with sufficient energy to insure cicatrization. The milder forms of ulceration—those which are observed in early pregnancy—often heal with surprising rapidity, considering their character. This is sometimes the case with the fungous ulceration of more advanced pregnancy, but much less frequently. The latter are mostly intractable and difficult to heal, but less so, perhaps, than ulcerations of a similar character would be in non-pregnant females. In the pregnant woman the luxuriance and fungosity of the ulceration is not so much the result of the intensity of the disease as of the increased physiological vascularity and vitality of the uterus, which increased vascularity appears likewise to facilitate the healing process.

The injections which I use are the same as in non-pregnant women—solutions of sulphate of zinc, alum, acetate of lead, tannin, &c., for further details respecting which I must refer to my work on uterine inflammation.

I am not in the habit of resorting to leeches, or to scarification of the cervix, in these cases, because I have not hitherto found these modes of treatment necessary; but I have no doubt that they might be resorted to without fear, were they deemed necessary. It is, however, I have hitherto thought, most prudent not to adopt any mode of treatment which is calculated to interfere much, even momentarily, with the circulation of the pregnant uterus. I do not, either, use the cold hip-bath in these cases, for a similar reason.

The application of caustic to the ulcerated surface occasions, as in the non-pregnant females, but very little pain at the time, although rather severe pain sometimes comes on in the inguinal and hypogastric regions in the course of a few hours, lasting for some hours, or for a day or two. The leucorrhœal discharge is also often tinged with blood for one, two, or three days afterwards, as is the case with ordinary ulceration. This slight show need occasion no alarm whatever, as it is purely local, and the result of the application of the caustic to an ulcerated surface.

Under the influence of this treatment, the ulceration soon assumes a healthier, less luxuriant appearance, then begins to cicatrize, and finally heals.

Once the progress of cicatrization has fairly set in, the irritability of the ulcer and of the surrounding tissues having been subdued, there is but little fear of abortion taking place. But until this is the case, abortion is imminent, and may, indeed, be feared daily. It is well, therefore, to apprise the patients of this circumstance, as otherwise they would be certain to attribute the miscarriage, were it to occur, to the instrumental examination. This leads me to say a few words respecting the use of the speculum in these cases.

The only circumstance which can explain the fact of the frequent existence of ulcerative inflammation of the uterine neck during pregnancy having hitherto passed unperceived by accoucheurs and pathologists, who in France freely resort to instrumental examination in uterine disease, is the general impression among them that the use of the speculum in pregnant women is dangerous, and likely to give rise to abortion. Such a notion, however, is most unfounded, as I have become convinced from my own experience. A careful instrumental dilatation of the vagina in a pregnant female is of itself perfectly harmless, as the slightest reflection will show. On the other hand, it is only by combining instrumental treatment with the other means employed, that the ulcerative disease can be cured; and, as I have stated, the chances of abortion taking place under the influence of the ulcerative disease I have found so great, as to render it imperative to adopt every curative means in our power.

In concluding this paper, I may, perhaps, be allowed to state as my firm conviction, that the facts which it contains, when generally known, are calculated deeply to modify existing opinions and practice, with reference to the diseases of pregnancy, the causes of abortion, and the treatment of the morbid phenomena which precede and follow it, in a large proportion of the cases that occur in practice.—*Month. Journ. Med. Sci.*, Dec., 1846, from *Lancet*, Sept. 26, 1846.

57. *Cæsarian Operation performed by Mr. SKEY, at St. Bartholomew's Hospital, the patient being rendered insensible by ether.*—The subject of this case, a dress-maker, æt. 27, of a mild disposition, is only four feet one inch in height on account of

great distortion of the pelvis and lower limbs from rickets during childhood. Her general health is good.

On the evening of the 7th of April, 1846. while under temporary excitement, she had connection once with a young man lodging in the same house. She was not aware of being pregnant until the seventh month, when she consulted a surgeon, who, conscious of her dangerous position, sent her to Mr. Skey, under whose care she was admitted into St. Bartholomew's Hospital.

An accurate examination was then made by several distinguished accoucheurs, who were unanimous in their opinion that embryotomy would be impracticable on account of the extreme narrowness of the antero-posterior diameter of the pelvis. It was, therefore, recommended that no operative proceeding should be adopted until the full period of utero-gestation; and that the Cæsarean section would then be the most proper measure.

The nature of the case being fairly and fully explained to the patient, she readily consented to undergo any operation which offered the best chance of relief.

At 2 in the morning of the 25th of January she was awakened from sleep by the commencement of labour.* The membranes gave way soon afterwards, and the pains increased. Mr. Skey, with several accoucheurs, made an examination *per vaginam* at half-past 4 A. M. The os uteri was at that time very little dilated.

A second examination was made at half-past seven. The os uteri was still in the same condition, but the labour pains were rapidly increasing. The operation was therefore no longer delayed.

The vapour of ether was inhaled by the patient for six minutes before its effects were manifest: an incision eight inches in length was made down to the linea alba, commencing two inches above the umbilicus, and terminating two inches and a half above the pubes. The linea alba was then divided to the same extent on a broad director. The uterus was fairly exposed, inclining to the left. Adequate pressure over the front and sides of the abdomen was necessary to prevent protrusion of the intestines. An incision from five to six inches in length was then made into the long axis of the uterus, from which a well formed, healthy looking female child was easily removed. The placenta was extracted shortly afterwards. Thus far, the operation occupied six minutes.

Immediate contraction of the uterus to one-half its previous size followed the removal of the child. The free venous hemorrhage which took place from its cut surface was arrested by cold water and pressure between the hands. In half an hour the uterus had contracted to such a size as to render its replacement within the abdomen safe. Accordingly, with the sanction of Drs. Rigby, Fergusson, Moore, P. Smith, and others, the incision in the abdomen was brought together by eleven sutures. Broad strips of plaster were applied to support the muscles, and cotton wool placed on the abdomen with a flannel roller over the whole.†

It may be as well to observe that the inhalation of the ether produced insensibility to the pain of the first incision. Its prolonged exhibition was not allowed lest it might possibly interfere with the contraction of the uterus.—*Lond. Med. Gaz.*, Jan. 1847.

58. *Congenital protrusion of the Liver through the umbilical ring.*—Dr. POCHHAMMER was sent for by a midwife to examine the child immediately after birth, in consequence of something abnormal in its external appearance. On examination he found the remains of the umbilical cord distended into a swelling of the size of a goose egg, protruding through, and occupying the seat of the umbilical ring, which was very much dilated. Finding himself unable to push the contents of the swelling into the abdomen, Dr. P. divided the external skin through its whole extent, when, to his astonishment, he found the liver, with a well furnished gall-bladder lying therein. He now carefully dissected off the skin which adhered to the circumference, replaced the liver, pushing it as far to the right side as possible, and put a ligature close round the base of the cord. The result was most favourable; the remains of the cord sphacelated, dropt off, and left a smooth cicatrix over the ring. The child is now a year old, strong, and healthy. The ring still remains dilated to the extent of a crown piece, but the contents of the abdomen are easily retained by means of a simple circular bandage.—*Monthly Journ. Med. Sci.*, Dec. 1846, from *Wochenschrift für die gesammte Heilkunde*, Feb. 28th, 1846.

* It is worthy of remark, that the full period from intercourse was here 293 days

† This patient died in 36 hours, see p. 506.

59. *Cæsarean Section*.*—Four cases are related of the performance of this operation, with a favourable result both to mother and to child; 2 in which the mother survived, 6 in which the life of the child was preserved, and 2 in which neither life was saved. The history of the mother, in Mr. Goodman's case, is not carried beyond the third week, at which time, however, she was doing well. In the patient on whom Dr. Meyer operated, the uterus contracted around the neck of the child so firmly after the body was extracted, as to render it necessary to enlarge the incision, an accident which illustrates the advantage of extracting the head first whenever that is possible. Mr. Lyon's case presents many points of interest. The operation was rendered necessary by the presence of a tumour blocking up the pelvis, and which, from its position behind the rectum, as well as from its firmness, was taken for an osteosteatomatous tumour of the pelvis. It turned out, however, to be the left ovary, enlarged and converted for the most part into an adipocere-like substance. [The case derives great importance from being almost, if not quite the only instance of an ovarian tumour getting behind the rectum, and it illustrates the necessity of making an experimental puncture or incision of such tumours through the vagina, before exposing a patient to the dangers of the Cæsarean section.] In the case reported by Mr. Aitken, the uterus had given way before the patient's admission into the hospital, so that the Cæsarean section, which the extreme contraction of the pelvis rendered necessary, could not be regarded as the sole cause of her death. [The statistics of the operation at present yield the following results. It has been performed in 378 cases, of which trustworthy accounts have been given. In 145 of these cases, the women recovered, in 233 they died; or the recoveries were in the proportion of 38 per cent., or as one in 2.6 cases. The fate of 318 children is mentioned, of whom 219 were saved, 99 were lost, or the child survived in 68 per cent., or in rather more than 2 cases out of 3.]—*West's Report*.

60. *Lacerated Perineum*.—M. Roux, in a clinical lecture (*Gazette des Hôpitaux*, Oct. 7, 1845) on lacerated perineum, expresses himself as decidedly in favour of operating some considerable time after delivery, rather than immediately or shortly afterwards. He considers the operation at the late period to be attended with much less danger of the supervention of erysipelas, and more likely to lead to the complete closure of the wound. In 13 out of the 15 cases on which he operated, his success has been complete, but in the remaining two cases the patients died. M. Roux employs the quilled suture, having previously pared the edges of the wound, and inserts only three stitches. For the first few days he keeps a catheter in the bladder, but does not consider it necessary to maintain a constipated state of the bowels after the 6th day, and so soon as they have acted freely he cuts out the stitches. The consolidation is quite firm, and there does not appear to be any increased tendency to laceration in a subsequent labour, but rather the reverse.—*Ibid*.

61. *Asphyxia neonatorum*.—M. DEPAUL† has written a very elaborate paper on the subject of artificial respiration, as a means of resuscitating still-born children. He instituted a series of experiments on the dead subject, with the view of determining the amount of danger of injuring the lungs by the insufflation of air. He satisfied himself that this danger is almost an imaginary one, since, even after the lungs were removed from the body, it required several most forcible insufflations, far stronger than would ever be made in the case of a still-born child, to

* Both lives saved—Dittmar, *Gaz. Méd. de Strasbourg*, and *Dublin Journal*, Nov., 1845; *Lond. Gaz. Méd.*, Sept. 13, 1845; Künsemüller, *Neue Zeitschr. f. Geburtsk.*, xix., p. 384; Steinbrenner, *Gaz. des Hôpitaux*, Sept. 12, 1846. Mother survived—Goodman, *Med. Gaz.*, Dec. 26, 1845; Meyer, *Med. Zeitung*, Sept. 10, 17, 1845. Child survived—Lyon, *Monthly Journal*, Dec., 1845; Jungmann, two cases, *Oesterr. Med. Jahrb.*, Sept., 1845; Kirchoffer, *Neue Zeitschr. f. Geburtsk.*, xix., 3tes Heft; Balfour, *Northern Journal*, May, 1846; Aitken, *Lancet*, June 13, 1846. The last two cases occurred at Vienna, and are merely reported by Messrs. Balfour and Aitken. Neither life saved—Künsemüller, loc. cit.

† *Journal de Chirurgie*, May, June, 1845; and *J. f. Kinderkr.*, März, 1846.

produce rupture of the pulmonary vesicles. On the other hand, he was struck with the great force needed thoroughly to inflate the lungs, while their resiliency was sufficient to expel the greater part of the air. He found, moreover, in many cases where children had died suddenly after breathing for several hours or days, no other morbid appearance than an unexpanded condition of a large portion of the lungs. With reference to the mode of practising artificial respiration, he condemns the mere blowing into the mouth as inadequate, and recommends the use of a tracheal tube. He is of opinion that there is more danger of failing from imperfect insufflation than of doing harm by its too forcible performance. It is of importance, likewise, that it should not be suspended on the first sign of breathing, but continued until the child cries loudly and respire well.—*Ibid.*

62. *Diet in Infancy.*—Dr. KLENCKE* calls attention to the important deterioration which the milk of stall-fed cows undergoes, and is inclined to attribute the production of scrofula in children in many instances, to its direct transmission through the medium of that fluid. Although the direct production of scrofula by the contagious properties of the milk is assumed rather than proved in this pamphlet, still the fact is very important that stall-fed cows often become tuberculous, and that their milk loses much or even the whole of its sugar, that the butter and casein diminish, while albumen is found, sometimes in as high a proportion as 15 per cent., and elain in the proportion of 1·4 per cent., and that in some cases lactic acid is likewise present.

In a well-written paper on the subject of diet in children, Dr. MAROTTE† draws attention to the error often committed in placing infants on a spare diet, who have been observed not to thrive at the breast, but to suffer from diarrhœa, and to lose flesh. The real means of cure would consist in obtaining a wet-nurse for the child, and thus providing it with a more instead of a less nutritious food. Many instances of gastro-intestinal disorder in childhood depend, in his opinion, on the want of a more highly animalized diet. It is therefore, as a general rule, undesirable to dilute the milk of the herbivora, already poor in animal constituents; while in those cases where it is necessary to supply deficiency in the nutritive qualities of the nurse's milk, chicken or other broth, either alone or mixed with milk, should be used for that purpose.—*Ibid.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

63. *Contested identity determined by the teeth.*—The following very curious case is related by Mr. A. S. TAYLOR, in his Lectures on Medical Jurisprudence, reported in the *London Medical Gazette*.

"It was a case which Mr. H. Reynolds and myself were called upon to investigate. It was a trial for murder, under circumstances in which the body was never discovered, and in which, as it happened, an important question of identity arose, founded on the presence of the incisor teeth in a female of advanced age.

"The case to which I allude is that of Elizabeth Ross, who was tried at the Old Bailey Sessions in December, 1831, for the murder of a female of the name of Caroline Walsh.

"It appeared, in evidence, that the deceased Caroline Walsh, who was an old Irishwoman, had been repeatedly solicited by the prisoner, to come and live with her and her husband, but the deceased refused. By much persuasion on the part of the prisoner, however, she at last consented, and went for that purpose to the prisoner's lodgings in Goodman's Field, on the evening of the 19th of August, 1831, taking with her her bed, and an old basket, in which she was accustomed to sell tape and other articles. From that evening all traces of the deceased were

* Ueber die Ansteckung und Verbreitung der Scrofelkrankheit bei Menschen durch den Genuss der Kumlch. Leipsig, 1846; and an abstract of it in J. f. Kinderkr., June, 1846.

† Journal de Médecine, August, 1845; and J. f. Kinderkr., March, 1846.

lost, and when the prisoner was required by her relatives to account for her disappearance, she prevaricated, but finally asserted that she had gone out early in the morning of that day, and had not returned.

"The testimony of the prisoner's son, who was the chief witness for the crown, went to prove most clearly, that the deceased had been wilfully suffocated on the evening of her arrival by his mother (the prisoner) placing her hands over the mouth of the deceased, and pressing on her chest. He deposed that on the following morning, he saw the dead body in the cellar of the house, and on the evening of the same day, he saw his mother leave the house with something large and heavy in a sack. *This was at the time murders were being perpetrated in London, to supply the Anatomical Schools with subjects for dissection.*

"Now it happened, most singularly, that on the evening of the 20th of August, the day following the alleged murder, an old woman, of the description of the supposed deceased, was found lying in the street in the immediate neighborhood, in a completely exhausted condition, and in a most filthy and squalid state. On being questioned, she stated that her name was Caroline Welsh, and that she was a native of Ireland. Her hip was found to be fractured, in consequence of which, she was conveyed to the London Hospital, where she subsequently died and was buried. The prisoner, Ross, when apprehended, insisted that this was the female whom she was accused of having murdered. Hence, setting aside the direct contradiction given to this statement by the evidence of her son, it became highly important for the ends of justice, that the identity or non-identity of the two women should be clearly established.

"The extraordinary resemblance of names, and the exact coincidence of time, struck every one in court, but by the examination of about twenty witnesses, the following points of difference were elicited. It was stated that they were both Irishwomen, but Caroline Walsh came from Kilkenny, Caroline Welsh from Waterford. The former, (the alleged murdered person,) was eighty-four years of age, tall, of a sallow complexion, gray hair, and had (an extraordinary circumstance for her years) very perfect incisor teeth. The latter, Caroline Welsh, (who died in the London Hospital,) was about sixty years of age, tall of stature, dark, like a mulatto, but had no *front teeth*, in addition to which it was deposed by a medical witness, that the alveolar cavities corresponding to them, *had been obliterated for a considerable time.* The witness brought the skull and jaw into court, for the body had been previously exhumed for examination, *but the judge would not allow it to be produced*, and said he would be satisfied with the witness' statement respecting the condition of the jaw.

"Other circumstantial points of difference were deposed to—as, for example, Caroline Walsh was healthy, cleanly, and neat, in her person, and her feet were perfectly sound; Caroline Welsh was considerably emaciated, in a dirty and filthy condition, her hip broken, her foot covered with bunions and excrescences, and one toe overlapped another.

"The dress of the two women was somewhat similar. That of Caroline Walsh was most clearly proved to have been sold by the prisoner, Ross, to different persons, and almost every article was reproduced in court, and sworn to by witnesses. The clothes of Caroline Welsh were proved to have been burnt by order of the parish authorities. Both of these women had similar baskets in their possession, but that of Caroline Walsh had no lid or cover, while that of Caroline Welsh had. Lastly, the body of the latter was taken up from the burial-ground of the London Hospital, for the purpose of identification, and it was sworn, by two of the granddaughters of Caroline Walsh, not to be the body of their grandmother.

"This is perhaps one of the most singular cases of disputed identity, that has come before a British court of law. We have a coincidence of name, time, place, age, occupation, and circumstances, so extraordinary, that but for two circumstances, it is probable, the prisoner would have escaped on the presumption of a mistake, the body of the deceased never having been found, although all the dissecting rooms in London were repeatedly searched for it. These circumstances were, 1st, that the relatives of the deceased swore, that the exhumed body was not that of the missing woman, and 2d, the medical proof of the entire obliteration of the alveolar cavities in the jaw of the exhumed body, proving that the incisor teeth must have been lost long before death, while several witnesses testified to the

presence of these teeth, as a striking peculiarity in the missing female. Even had the features of the exhumed female been obliterated by putrefaction, the non-identity would have been established by this medical fact.

"The prisoner was convicted and executed."

T. R. B.

64. *Blake on Poisons.*—The following are extracts from the *Athenæum Report of the Meeting of the British Association* at Southampton, in September last. The discrepancies are certainly extraordinary. It is to be hoped that Dr. BLAKE will publish his observations in full.

Sept. 16. Sect. B. Chemistry.—"On the connection between the isomorphous relations of the elements, and their physiological action," by J. Blake. In a paper read before the Academy of Sciences at Paris, the author remarked, "that when introduced directly into the blood, the salts of the same base appear to exert the same effect on the animal economy." Since that time, further researches have led to the discovery of a law, equally interesting under a chemical as under a physiological point of view. The law alluded to, is, that when introduced into the blood, all isomorphous substances produce analogous effects, and give rise to the same reactions in the animal economy. This law has been verified, by an extended series of experiments with the salts of magnesia, lime, manganese, iron, cobalt, nickel, zinc, cadmium, copper, bismuth, lead, baryta, strontia, soda, silver, potash, ammonia, palladium, platinum, osmium, iridium, antimony, the acids of phosphorus, arsenic, bromine, chlorine, iodine, sulphur, and selenium. One of the facts observed, is, the connexion which exists between the physiological action of these substances, and their isomorphous relations to the elements of the blood. It is found that those substances which exist in the blood, or have isomorphous relations with its elements, have the least marked reactions; thus phosphoric and arsenic acids can be introduced into the veins without producing any marked phenomena, whilst, on the other hand, those elements which are most distinct in an isomorphous point of view, from the constituents of the blood, are those which give rise to the most marked phenomena. *Two drachms of arsenic acid, injected into the veins, will produce no marked effect on any organ*, but a grain of chloride of palladium, or two grains of nitrate of baryta, are sufficient instantly to arrest the movements of the heart. Several other instances, analogous to those quoted, were pointed out.

Sect. E. Physiology.—"On the Physiological Action of Medicines," by Dr. J. BLAKE. This report was in continuation of the same subject, reported on at previous meetings of the Association, and contained a series of experiments to investigate the action of the salts of iridium and osmium, and of the acids of selenium and sulphur, on the animal economy. The salts of iridium, when injected into the venous system, destroy life by diminishing the force of the heart's action, and when injected into the arterial system, the capillaries are impeded, and the heart's action is much increased, to overcome the resistance. The action of the salts of osmium is exactly analogous to those of iridium, and to that of other members of the same isomorphous group. The effects produced by selenic and sulphuric acids, when introduced into the blood, are not striking, not appearing to act in a manner, on *any one organ*. They agree in this with other bodies which either enter into the composition of the blood, or have isomorphous relations with it. The experiments with these substances were given in detail. In conclusion, the author enumerated the new law in organic chemistry, which he derives from the series of researches which this report concludes, viz., that the reactions which take place between the elements of the living body and inorganic compounds, are not governed by the ordinary chemical properties of these substances, but depend on certain properties they possess connected with their isomorphous relations. This law, he contended, opens up a new point of view, to conduct our organic chemical inquiries from, and satisfactorily accounts for the failure which has constantly attended attempts to explain the chemistry of animal life, by analogy from ordinary chemical phenomena.

T. R. B.

65. *Delirium Tremens in an infant.*—A little boy, five years of age, swallowed by mistake a large quantity of brandy. Vomiting speedily followed, and he passed a restless night, sleeping only toward morning. On awaking, it was observed, that

he had tremors of the hands, and that he could not hold a cup steadily. Convulsions with cramps ensued. The pulse was slow, the look timid, the pupil dilated, and the countenance pale. Delirium supervened, and there was dysuria, with great thirst. A cataplasm was applied to the abdomen, and calomel and jalap were administered. The symptoms abated about the middle of the day, but toward evening, there was a return of the tremors with other nervous symptoms. An opiate was exhibited, from the effects of which, the child slept soundly, and on awaking, the whole of the symptoms had disappeared.—*Ibid.*, from *Gazette des Hopitaux*.
T. R. B.

66. *On the Echites suberecta*. By Dr. W. HAMILTON.—This plant is a native of Jamaica and Hayti, a shrub, with a weakly twining stem, supporting itself by means of the bushes, to a height of ten or more feet, and showing large golden blossoms in the months of July, August, and September.

The milk of this plant is a most deadly poison, and often fatal to cattle that browse upon it. Lunau states, that he saw two drachms given to a dog, which proved fatal in eight minutes. But its exhibition may be so managed, as to sap the constitution by slow and imperceptible degrees, so as, without awakening suspicion, to accomplish its object with greater certainty. Lunau gives the case of a medical practitioner in Jamaica, who was practised upon in this way by a negro woman, who appears, however, to have used it too largely for concealment, as it produced violent griping, nausea and loss of appetite, followed by convulsive twitchings in various parts of his body, hectic fever, and emaciation. Lunau on being applied to for his advice, sent him some cocoons of the *Feuillea*, which he directed him to take infused in wine, frequently in the course of the day, by which means the deleterious effects of the *Echites* were counteracted, and health ultimately restored, although it was a long time before the disposition to spasms was wholly subdued.

Dr. Barham gives another remarkable case, in which the effects of this plant were counteracted by the timely exhibition of the expressed juice of the root of the *Maranta arundinacea*, or arrowroot. It appears that an ignorant negro on a plantation about a league distant from Spanish Town, being at a loss for a cork, employed a piece of the stem of the *Echites suberecta*, to stop a jar of rum, which was left in that condition, and with some of the leaves which had dropped in, all night. Of this rum, some of the negroes partook in the morning, and were in the course of a few hours, seized with a violent vomiting, and tremors. An alarm was immediately raised that they were poisoned, and the owner of the plantation hastened, accompanied by the surgeon who attended it, to the spot, but on his arrival, he found that some were dead, and another just expiring. Nobody could explain the cause, but somebody present having suggested the arrowroot, it was procured, the juice expressed from the root, and administered with the happiest effects. Immediately after drinking the first glassfull, the negro who was at the point of death revived; the second brought him completely to himself.

Dr. Hamilton suggests the importance of an analysis of this plant.—*Pharmaceutical Journal*, July, 1846.
T. R. B.

67. *Vapours of Phosphorus, Lucifer Matches*.—M. DUPASQUIER, from numerous observations, arrives at the following results.

1. That the vapours of phosphorus do not produce on workmen the serious effects ascribed to them. 2. That they only excite a moderate bronchial irritation which soon yields in consequence of the mucous membrane becoming accustomed to the contact of these vapours.

Such are his conclusions, deduced from observations made at the factories in Lyons. M. Dupasquier does not deny that more serious effects have been noticed in the German factories and in those established in the suburbs of Paris, but he attributes such to other causes than the influence of phosphoric vapours. Possibly they may be owing to the addition of arsenious acid to the phosphoric paste.

In spite of the express directions of the Committee of Health of Paris, not to employ arsenic in the manufacture of Lucifer matches, he has ascertained that the manufacturers use it in the proportion of at least one-fourth of the whole materials employed. A clerk in an extensive druggist establishment at Paris, informed M.

Dupasquier that it was quite common to sell these materials made up, and the receipt was equal parts by weight of phosphorus, chlorate of potash, arsenic in powder, and powdered gum Arabic. Another clerk stated to him, that the druggists are in the constant habit of selling arsenic to the makers of lucifer matches.

The above opinions are rendered highly probable from the fact that the manufacturers at Lyons do not employ arsenic. The well known stimulant action of phosphorus, when taken internally, on the genital organs, led him to suppose that a similar result would occur on constant exposure to its vapours, but M. Dupasquier was surprised to find that no indication of this had in any case been noticed at Lyons.—*Comptes Rendus*, August 31, 1846.

T. R. B.

68. *On the mode of testing the presence of minute quantities of Alcohol.* By ROBERT D. THOMSON, M. D., Lecturer on Practical Chemistry in the University of Glasgow. —The determination of the presence of minute quantities of alcohol is a chemical point of some importance, especially in judicial cases. The usual method hitherto adopted for detecting alcohol in mixed fluids, is to subject the fluid suspected to contain it to distillation, at a temperature not greater than that which is required to cause the alcohol to pass over into a receiver and then to judge of the presence of spirit by the vinous odour of the distilled fluid. When alcohol, in the form of gin, whisky or brandy, &c., has been swallowed, if death takes place within a short period of the introduction of the fluid, the odour of the spirituous liquors will be distinctly perceptible to one inspecting the interior of the stomach, but if a considerable time should elapse, as, for example, a few hours between the introduction of the spirit and death, it is rarely found that the smell can be detected. Again, if the person should die under the influence of spirituous liquors and the stomach were not examined within a limited period, the odour of alcohol might not be perceptible, since as absorption goes on for several hours after death, and as volatile fluids appear to be peculiarly susceptible of rapid absorption, the whole of the alcoholic fluid might be removed from the intestinal canal into the circulation. It has been affirmed that alcohol has been detected in the brain of gin drinkers, but as the mode of testing adopted was merely the impression made upon the nerves of smell, we may perhaps be allowed to doubt the accuracy of the experiment. It has been affirmed that the gin obtained from the brain has been inflamed, and if this were correct, we should then be entitled to quote nasal and ocular proofs of the presence of alcohol in the brain, but as the gin of the shops is so weak that, in its natural state, it will scarcely burn, we may also be permitted to be skeptical in reference to this second proof. These views do not tend to disprove the possibility of the presence of alcohol in the vessels of the brain and other portions of the body, because we know that hydrocyanic acid passes to the very extremities of the body and can be distinctly detected by its odour, until it has been either removed from the system by the combustion of respiration, or simply by exhalation from the lungs. Now alcohol and hydrocyanic acid are somewhat analogous in a chemico-physiological point of view, as they possess a powerfully sedative effect upon the system, are exceedingly volatile, readily absorbable, and require much oxygen to resolve them into simpler forms. For these reasons, it appears highly probable that alcohol may be capable of detection in the vessels of the system when it has been swallowed in large quantities. The experiment could, however, only be made on the inferior animals, and we should require some more definite test than the mere smell of the alcohol.

There are other circumstances, in a judicial point of view, in which it may be of importance to detect minute quantities of alcohol. For example, to distinguish small portions of the liquid preparations of opium. In medicine, there are used the solution of opium in alcohol; the solution of opium in wine; the solution of opium in alcohol with benzoic acid and ammonia; the solution of opium in vinegar; and, lastly, the solution in water. When these preparations are entire, there is not much difficulty in their discrimination, but if they have been exposed to the air, much of the alcohol escapes, and they may all become analogous to a solution of opium in water. To distinguish those which contain alcohol from those which do not, enables us to divide them into two classes, and thus to simplify the inquiry. For these, and many other cases, where minute detection is necessary, I have been in the habit, for some years, of employing a method which depends upon a

well known fact, the dehydrogenation of alcohol by means of oxygen. For this purpose, the fluid to be tested, if coloured, or a mixed one, is to be distilled in the water bath until one-third of it passes over. Should the liquor contain any acetic acid, this may be saturated previous to distillation with carbonate of soda, in order to remove the vinegar smell, which might interfere with the odour of the subsequent test. Into the distilled liquor supposed to contain alcohol, should be dropped a crystal or two of chromic acid and the liquor stirred. If the smallest quantity of alcohol be present, the green oxide of chrome will begin to be disengaged, and at the same time the smell of aldehyde is distinctly perceptible.

By means of this simple test, it is possible to distinguish a drop of alcohol in half an ounce, and even in an ounce of water. When chromic acid is not at hand, the experiment may be made with bichromate of potash and sulphuric acid. This perhaps affords the most distinct method of performing the experiment, and may be conducted as follows. Drop in a few grains of powdered bichromate into a small flat glass (which tapers towards the bottom) containing the solution to be examined, and add a few drops of oil of vitriol. If alcohol is present, the green oxide will be observed to be developed on the surface of the undissolved salt, and the characteristic odour of aldehyde will speedily be perceptible.—*Monthly Journal of Medical Science*, December, 1846. (For Dr. Percy's method of detecting alcohol, see *Amer. Jour. Med. Sciences*, new series, vol. iv., p. 515.) T. R. B.

69. *Invalidity of a Contract made by a Lunatic* (Molton v. Camroux, English Court of Exchequer).—This was an action by the representatives of Thomas Lee, deceased, to recover from the National Loan Fund Life Insurance Company, the sum of £355, paid as consideration for an annuity granted by the Company to him on the 29th of August, 1843, upon the ground that he was of unsound mind and incapable of making any valid disposition of his goods at the time when the annuity was granted. Soon after that time the symptoms of insanity became so very decided that he was placed in a lunatic asylum. The attorneys employed by his representatives wrote to the defendants, stating that fact, and requiring them to cancel the policies and refund the sum now sought to be recovered. The company declined to do so, and upon the 14th of October, 1844, Lee died of paralysis of the brain, in Dr. Warburton's lunatic asylum. The question, therefore, for the decision of the jury was, whether the deceased was of unsound mind upon the 29th of August, 1843, when the policy was executed; if so, the contract was void. Upon this subject, several witnesses were called on behalf of the defendants, to show that the bearing and demeanour of the deceased, when dealing with the Company, were of such a character as to render it impossible to imagine that he was of unsound mind. The jury found a verdict for the plaintiff for the full amount claimed.—*London Atlas*, Dec. 26, 1846. T. R. B.

70. *Procuring of Abortion*. Commonwealth v. Luceba Parker.—The defendant was charged with having thrust into the womb and body of a married woman, then pregnant with child, a sharp metallic instrument, with the intent to cause and procure the said woman to miscarry and prematurely bring forth said child, and that in consequence it was born dead.

On the trial it appeared in evidence that the acts alleged in the indictment were done by the defendant, with the consent of the woman. The jury found a verdict of guilty and her counsel moved an arrest of judgment, because it was not set forth, that the woman was quick with child, at the time the operation was performed. The judge instructed the jury that it was not necessary to prove this fact, but he deemed the question involved so important that he reported it to the Supreme Court (of Massachusetts).

After argument, the Chief Justice, in delivering the opinion of the Court, stated that the whole matter resolved itself into one question: "whether it is an indictable offence at common law, to administer a drug or perform an operation upon a pregnant woman, with her consent, with the intention and for the purpose of causing an abortion and premature birth of the fœtus of which she is pregnant, by means of which an abortion is in fact caused, without averring and proving at the time of the administration of such drug or the performance of such operation, such woman was quick with child."

There is another case, he observes, which resembles it in fact, but falls within another principle. The use of violence with an intent to procure miscarriage without the consent of the woman, is an highly aggravated assault and indictable at common law. So, where, upon a similar attempt, by drugs or instruments, the death of the mother ensues, the party making such attempt, with or without the consent of the mother, is guilty of the death of the mother on the ground that it is an act done without lawful purpose.

But, at common law, the Court were of opinion that no indictment would lie, for attempts to procure abortion with the consent of the mother, until she is quick with child, although all must agree, that such acts are in a high degree offensive to good morals and injurious to society.

It is mentioned, in a note to this case, that the Legislature of Massachusetts subsequently made provision for the punishment of the offence with which the defendant was charged in this case.—*Metcalf's Massachusetts Reports*, vol. ix.

T. R. B.

71. *Case of Poisoning by Arsenic relieved by the use of Magnesia*.—Mr. LEPAGE, apothecary at Gisors, states the following in a letter to M. Bussy, director of the School of Pharmacy, with a request that it may be laid before the Royal Academy of Medicine.

On the 30th of May, 1846, at 6 A. M., Dr. Ardiege and myself were requested, by the Commissary of Police, to visit P. Delamotte, who, it was stated, had poisoned himself the evening previous. We found him suffering severely with pain, and his lips still covered with a whitish powder. On inquiring of him, as to the cause of this suicidal act, he stated that the evening previous, he had murdered a female with whom he had lived in adultery, and in order to escape the hands of justice had swallowed, at 11 o'clock, a large cupful of arsenic dissolved in water.

It appears that Delamotte had eaten a hearty supper previous to taking the poison. He had vomited and purged repeatedly during the night. His present condition is, a small irregular pulse, heat over the body, a sense of constriction in the throat, excessive thirst, horrible pain in the stomach and bowels, urine scanty and high coloured, respiration easy, but the patient is groaning incessantly.

We put in use the new method proposed by M. Bussy, and administered calcined magnesia suspended in water during ten hours (he took about 100 grammes), and under its effect we had the pleasure of observing all the alarming symptoms disappear; the colic ceased, he passed a quiet night, but without sleep, and the next day was convalescent.

During the administration of the magnesia the patient vomited frequently for the first six hours. The matters thus vomited were collected and thrown on a filter, and the transparent liquid was tested by the apparatus of Marsh, and large arsenical spots were produced.

From these results, the reporters are of opinion that magnesia thus given forms with arsenious acid, an arsenic *insoluble in water*, and that its efficacy as an antidote is hence unquestionable.

It is probable that Delamotte swallowed about fifteen grammes of arsenic. As a criminal, he was subsequently removed to prison and continued in good health until the 5th of June, when he was found dead, from hanging himself in his cell.—*Bulletin de l'Académie Royale de Médecine*, June 9, 1846.

T. R. B.

72. *Sale of Poisonous Substances*.—The French Government has recently revised its laws and ordinances on this subject. By a royal ordinance, dated October 26, 1826, the following are designated as belonging to that class:—

Acetate of mercury, acetate of morphine, acetate of zinc, arsenious acid and the various preparations in which it enters, cyanhydric (prussic acid), aconite and its compounds, sulphuric alcohol (eau de rabel), anemone pulsatilla and its preparations, false angustura and its preparations, atropine, belladonna and its preparations, brucine and its preparations, bryony and its preparations, cantharides and their preparations, carbonate of copper, carbonate of ammonia, cevadilla and its preparations, chloride of antimony, chloride of morphine, ammoniaco-mercurial chloride, chlorides of mercury, hemlock and its preparations, codeine and its preparations, colocynth and its preparations, coneine and its preparations, cocculus

indicus and its preparations, colchicum and its preparations, cyanuret of mercury, daturine, digitalis, and its preparations, elaterium and its preparations, black hellebore and its preparations, white hellebore and its preparations, emetine, tartar emetic, spurge and its preparations, euphorbium and its preparations, St. Ignatius' bean and its preparations, oil of cantharides, oil of hemlock, croton oil, oil of spurge, ioduret of ammonia, ioduret of arsenic, ioduret of potassium, ioduret of mercury, kermes mineral, lauro-cerasus and its preparations, laudanum and all its compounds and mixtures, jatropha curcas, golden sulphur of antimony, ergot and its preparations, stavesacre, turpeth mineral, arsenical liquor of Pearson, arsenical liquor of Fowler, morphine and its compounds, narcotine, narceine, narcissus, nicotianine, necotine, ammoniaco-mercurial nitrate, nitrate of mercury, opium, oxyd of mercury, pierotoxine, rhus radicans, savine, solanine, sulphate of mercury, tartrate of mercury, strychnine and its compounds, veratrine.

Among the enactments are the following—

1. Whoever wishes to engage in the sale of one or more of the above articles must make a declaration of the same before the Mayor of the Commune, stating the place of sale.

2. Chemists and manufacturers employing one or more of these are required to make a similar declaration. All of these are to be registered, and in case of removal to another place, due notice is to be given.

3. The above substances can alone be sold on the written request of the buyer, signed by him.

4. All purchases or sales are to be registered according to a form prescribed by the mayor or commissary of police.

5. The sale of poisonous substances for medical use, shall only be allowed to an apothecary on the prescription of a physician, surgeon, officer of health, or a brevetted veterinarian.

6. These prescriptions shall be signed, dated, and state in letters the dose of the respective substances, as well as the manner in which they are to be administered.

7. The apothecaries shall enter these prescriptions in a register, which shall at all times be open to legal inspection.

8. The apothecary, on delivering the medical prescription, shall annex to it a label stating his name and residence, and mentioning whether the article is to be used internally or externally.

9. Arsenic and its compounds may be sold for other than medical purposes, provided they be combined with other substances, and the formulas for these shall be prepared with the approbation of the Secretary of State of Agriculture and Commerce, to wit: For the treatment of domestic animals, by the Council of Professors of the Veterinary School of Alfort. For the destruction of hurtful animals and the preservation of objects of natural history, by the School of Pharmacy.

10. The sale of arsenic and its compounds are forbidden for the cleansing of grain, the embalming of the human body and the destruction of insects.

11. Poisonous substances should always be kept by merchants, manufacturers and apothecaries in a safe place and under lock and key.

12. The transportation or delivery of these articles should be made in the most careful manner.

The punishment for the infringement of these rules may be a fine from 100 to 3000 francs and imprisonment from six days to two months, and confiscation of the articles seized. This not to preclude criminal prosecutions, if the nature of the case requires it.—*Gazette des Tribunaux*, November 1, 1846.

MEDICAL EDUCATION.

73. *Edinburgh Statutes regarding the Degree.*—The statutes of the Medical Faculty of the University of Edinburgh, regulating the education of candidates for the degree of doctor in medicine have undergone, in the course of twenty-two years, from the end of 1824 to the present time, three changes. The first of these, in 1825, related to the *extension of the period of study from three to four years, and an increase in the number of the branches of education to be studied.* The second change,

which took place in 1831, related to the addition of two more branches of instruction to the curriculum. The third change, which took place in 1833, modified the curriculum, by rendering imperative four courses, two of which were previously optional; and by removing entirely one of the optional classes, viz., military surgery.

Previous to 1825 the curriculum of education qualifying for examination for the degree, consisted of one course of lectures on each of the seven following branches of medical education; viz., 1. Anatomy and Surgery; 2. Chemistry and Chemical Pharmacy; 3. Institutions of Medicine, embracing Physiology, Pathology and Therapeutics; 4. Materia Medica, with Dietetics; 5. Practice of Medicine; 6. Clinical Medicine, with Hospital Attendance; and 7. Botany. These lectures were to be attended in the course of three winters and one or two summers; the order left to the choice of the pupil.

In 1825 the Medical Faculty introduced two important changes. They lengthened the whole period of study from three to four years; allowing, however, one year to be taken out of the university, if accompanied with hospital attendance, and a course of dissection; to the seven courses already enjoined, they added a six months' course of lectures on Midwifery and the Diseases of Women and Children; and they further enjoined the candidate to attend two at least of any of the five following branches of education: 1. Practical Anatomy; 2. Natural History; 3. Legal Medicine; 4. Clinical Surgery; and 5. Military Surgery, each in courses of three months' duration; the selection of the two to be left to the student.

In 1831 two new lectureships, that on General Pathology, and that on Surgery, were added by order of government to the curriculum qualifying for examination for the degree. This raised the number of imperative courses to twelve.

In 1833 another important change was made. Of the optional classes, Practical Anatomy, Natural History, Forensic Medicine, and Clinical Surgery were imperatively and permanently added to the curriculum; while Military Surgery was altogether removed. As of these four classes two had been imperative—that is, were required to be attended, this added two more to the twelve previously required; thus raising the number to fourteen.

These fourteen were as follows:—

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|---|---|--|
| 1. Anatomy | } | During courses of six months. |
| 2. Chemistry | | |
| 3. Materia Medica and Pharmacy | | |
| 4. Institutes of Medicine and Physiology | | |
| 5. Practice of Medicine | | |
| 6. General Pathology | | |
| 7. Surgery | | |
| 8. Midwifery and the Diseases of Women and Children | | |
| 9. Practical Anatomy | | |
| 10. Clinical Medicine during one course of six months or two courses of three months. | } | During courses of at least three months. |
| 11. Clinical Surgery | | |
| 12. Forensic Medicine | | |
| 13. Botany | | |
| 14. Natural History, including Zoology | | |

Of these changes we gave accounts, publishing at the same time the statutes prescribing them in the 23d (p. 421) (1825), and 41st (p. 250) (1837) volumes of this Journal. To these volumes we refer the reader for specific information, and the reasons assigned for the changes.

We have now to record a fourth change of considerable importance, neither increasing nor diminishing the course of education; but relating to the persons from whom the courses may be taken.

With the conviction of the necessity for reform in medical education and practice, which has been for many years taking possession of the minds of the profession, the idea that it might be eligible, to allow a portion of the education for the degree to be taken from teachers not in any university, and, in short, without the walls of a university, had taken a firm hold of the thoughts of many, both individuals and boards. In 1834 the Colleges of Physicians and of Surgeons in this city had appointed committees to consider the whole subject of medical reform, and especially that of medical education; and they drew up various resolutions

calculated to improve medical education, and to introduce uniformity among the licensing boards.

In 1838 the College of Surgeons of this place resumed the consideration of the subject, and on the 8th of October a committee was appointed by the College of Physicians to confer and deliberate with similar committees from the Medical Faculty and the College of Surgeons. This joint committee, after various meetings, presented, on the 27th October, 1838, a report, embracing a series of resolutions, in which the representatives of the three bodies had agreed; and which report was approved by the college at a meeting of the 28th November, 1838, though not finally or entirely adopted. Among other propositions was contained one, that it was fair and reasonable that one-third of the classes or courses of instruction for the medical degree, to be selected by the students, should be allowed to be taken without the university, that is, from qualified, though extra-academical teachers. Time being taken to consider the individual clauses and propositions of the report, it was, with some slight modification, adopted at an extraordinary meeting of the 16th March, 1839; and the recommendation in favour of allowing one-third of the classes requisite for graduation to be taken without the University, was carried by a large majority.

Subsequent to that time, all plans of reform and improvement in medical education have been arranged with the understanding now stated; and both the colleges have looked on it as a condition necessary to any proper plan of reform. At one time several of the extra-academical lecturers applied to the patrons to have this proposition considered and sanctioned by them. But the patrons declined interfering, on the ground that the legislature were understood to be preparing a general measure for improving medical education and practice, and in which this proposition would receive just attention. After the failure of the several legislative measures brought forward with the intention now specified, the idea of leaving it to the legislature was given up.

In 1845, with the Medical Faculty itself originated a proposition for opening up, as it has been called, the system of instruction prescribed for graduation. The faculty then proposed that three-fourths of the requisite course of instruction might be taken in London or Dublin, from lecturers or teachers connected with hospitals or otherwise recognized and accredited, and one-fourth within the walls of the University. But no mention was made of recognizing the extra-academical lecturers of Edinburgh, as authorized to give any portion of this instruction.

This proposition was not agreeable to the Royal Colleges here or to the lecturers. The colleges remonstrated in separate memorials to the patrons, entreating them either to make no change, or to place all extra-academical lecturers, whether in London, Dublin, or Edinburgh, on a footing of equality. The lecturers also memorialized the patrons to the same effect. The result was that the proposition of the medical faculty did not receive the sanction of the patrons. Subsequently the patrons authorized the college committee to consider the matter and report. Their report, at the end of some time, was presented recommending the adoption of the plan originally proposed in 1838 by the two colleges.

The following extract, from this report presents all the points of interest to us in this country.

"The subject has again fully occupied the attention of the committee, and they beg now to report as follows:—

"1. That, by the statutes presently in force, four years of study are required in order to qualify a student to become a candidate for the degree of M. D. ;* during his curriculum he must attend fourteen different classes; such attendance can only be given in this or in some other university having power to confer the degree; one year's attendance is, however, required in the University of Edinburgh.

* An exception is made in favour of those students, who, in addition to three anni medici in a university, have attended, during six months at least, the medical or surgical practice of a general hospital, which accommodates not less than eighty patients, and, during the same period, a course of practical anatomy; in which case, three years of university study are admitted, provided the students have attended, during the three university years, all the classes required by the statutes, with the exception of practical anatomy, under professors in a university.

"2. That the Senatus propose to change this system, in so far as to place teachers of medicine connected with the London Hospital schools, and the school of the College of Surgeons in Dublin, on a level with professors in other universities.

"3. That in this way, a student, after completing his course of study by attendance for three years at the London or Dublin Extra-Academical Schools, and one at the University of Edinburgh, might present himself as a candidate for the degree.

"4. That the Extra-Academical Lecturers of Edinburgh claim an equality of privilege with the teachers of the hospital schools of London, and the School of the College of Surgeons of Dublin; and that the Colleges of Physicians and Surgeons concur in opinion that this claim should be conceded, while the Medical Faculty object to the concession.

"5. That while the University is entitled to the chief regard of the patrons, it is of importance to the interests of medical science, and of the city to foster the Extra-Academical School of Edinburgh, to which the University is indebted for eight of the twelve professors at present composing the faculty of medicine; and, in the opinion of the committee, the claim of the Edinburgh Extra-Academical School to an equality of privilege with the schools of London and Dublin, is fair and reasonable, and ought to be conceded by the patrons. At the same time, the committee cannot help thinking, that the Medical Faculty of the University have gone too far in proposing to open up the curriculum to the extent of three years out of four, in favour of the schools of London and Dublin. No doubt, when they did this, they proposed to exclude the Extra-Academical School of Edinburgh from all advantage, excepting that to be gained by the attendance of those students who might choose to repeat any particular course, which they were at liberty to do without the University. But, as the committee differ with the Medical Faculty on this point, and propose to place the aforesaid Extra-Academical Schools of London, Dublin and Edinburgh on an equality, so they recommend that the council should not now go farther than carry out the principle of the recommendation contained in the report of 7th April, 1842, extending it, however, to the said Schools of London and Dublin, and thus permit candidates for medical degrees to take one-third of the imperative classes under teachers in any one of these Extra-Academical Schools.

"6. That to carry this object into effect, the committee propose that the council should add the following section to the statutes transmitted by the Medical Faculty in November last, and should also make some verbal alterations on the statutes, that they may be consistent with the section to be introduced:—

"Attendance on the lectures of teachers of medicine in the hospital schools of London, or school of the College of Surgeons in Dublin, or of teachers of medicine in Edinburgh, recognized as such by the Royal Colleges of Physicians and Surgeons of Edinburgh (in accordance with regulations to be adopted by these colleges jointly, and approved of by the patrons of the University), shall to the extent of one-third of the whole departments required by Section II., Clause 1, to be studied by candidates, be held equivalent to attendance under professors in this or in some other university, as already defined. And such attendance shall be available to candidates to the extent of one of the four years of study required by Section I., provided it has embraced, in one year, at least two six months' courses of lectures, or one of these and two three months' courses.

"7. That the committee have guarded the concession by requiring that the Extra-Academical Teachers of Edinburgh, whose certificates of attendance shall be received as qualifying candidates for the degree, shall be teachers of medicine, recognized as such by the Royal Colleges of Physicians and Surgeons, in accordance with regulations to be adopted by these colleges jointly, and approved of by the patrons of the University. One of these regulations, the committee are of opinion, should be to the effect, that for every ticket to be ultimately presented as evidence of attendance with a view to graduation, there shall be paid a fee of the same amount with that exigible by the medical professors in the University. To this arrangement the committee are hopeful that these learned bodies will not offer any objection.

"The committee subjoin to this report the statutes as transmitted by the Medical

Faculty, in November last, showing in foot-notes the words which they have recommended to be deleted, and in italics those which they propose shall be added.

"The statutes, as thus amended, the committee recommend should be sanctioned by the patrons."

The following are the *Statutes of the University of Edinburgh relative to the degree of M. D.*, now in force.—Sect. I. "No one shall be admitted to the examinations for the degree of Doctor of Medicine who has not been engaged in medical study for four years, during at least six months of each, in the University of Edinburgh, or in some other university where the degree of M. D. is given;* unless, in addition to the three medical sessions so constituted, he has attended, during at least six winter months, the medical or surgical practice of a general hospital, which accommodates at least eighty patients, and during the same period a course of practical anatomy.

"Sect. II. No one shall be admitted to the examinations for the degree of doctor who has not given sufficient evidence,—

"1. That he has studied, once at least, each of the following departments of medical science, under professors† of medicine, in this or in some other university,‡ as already defined, viz:—

Anatomy	}	During courses of six months.
Chemistry		
Materia Medica and Pharmacy		
Institutes of Medicine or Physiology		
Practice of Medicine		
Surgery		
Midwifery, and the Diseases peculiar to Women and Children	}	During courses of six months.
General Pathology, or, in schools where there is no such course, a three months' course of lectures on Morbid Anatomy, together with a supplemental course of Practice of Medicine, or Clinical Medicine		
Practical Anatomy (unless it has been attended in the year of extra-academical study allowed by Sect. I.)		
Clinical Medicine, that is, the treatment of patients in a public hospital, under a professor of medicine, by whom lectures on the cases are given	}	During courses of six months, or two courses of three months.
Clinical Surgery		
Medical Jurisprudence	}	During courses of at least three months.
Botany		
Natural History, including Zoology		

"2. That in each year of his academical studies in medicine, he has attended at least two six months' courses of lectures, or one of these and two three months' courses.

"3. That, besides the course of clinical medicine already prescribed, he has attended, for at least six months of another year, the medical or surgical practice of a general hospital, either at Edinburgh or elsewhere, which accommodates not fewer than eighty patients.

"4. That he has been engaged, for at least six months, by apprenticeship or otherwise, in compounding and dispensing drugs at the laboratory of an hospital, dispensary, member of a surgical college or faculty, licentiate of the London or Dublin society of apothecaries, or a professional chemist or druggist.

"5. That he has attended, for at least six months, by apprenticeship or otherwise, the out-practice of an hospital, or the practice of a dispensary, physician, surgeon, or member of the London or Dublin society of apothecaries.

"Sect. III.—Attendance on the lectures of teachers of medicine in the hospital schools of London, or school of the College of Surgeons in Dublin, or of teachers of medicine in

* The words, "in the hospital schools of London,—or in the school of the College of Surgeons in Dublin," have been deleted.

† The words, "or teachers," have been deleted.

‡ The word "university" has been substituted for that of "school."

Edinburgh, recognized as such by the Royal Colleges of Physicians and Surgeons of Edinburgh (in accordance with regulations to be adopted by these colleges jointly, and approved of by the patrons of the University), shall to the extent of one-third of the whole departments required by Sect. II., Clause 1, to be studied by candidates, be held equivalent to attendance under professors in this or in some other University, as already defined. And such attendance shall be available to candidates to the extent of one of the four years of study required by Section I., provided it has embraced, in one year, at least two six months' courses of lectures, or one of these, and two three months' courses.

"Sect. IV.* No one shall obtain the degree of doctor who has not studied in the manner already prescribed, for at least one year previous to his graduation, in the University of Edinburgh.

"Sect. V. Every candidate must deliver, before the 31st of March of the year in which he proposes to graduate, to the Dean of the Faculty of Medicine,—

"1. A declaration, in his own handwriting, that he is twenty-one years of age, or will be so before the day of graduation; and that he will not be then under articles of apprenticeship to any surgeon or other master.

"2. A statement of his studies, as well in literature and philosophy as in medicine, accompanied with proper certificates.

"3. A medical dissertation composed by himself, in Latin or English; to be perused by a professor, and subject to his approval.

"Sect. VI. Before a candidate be examined in medicine, the medical faculty shall ascertain, by examination, that he possesses a competent knowledge of the Latin language.

"Sect. VII. If the faculty be satisfied on this point, they shall proceed to examine him, either *viva voce*, or in writing; first, on anatomy, chemistry, botany, institutes of medicine, and natural history, bearing chiefly on zoology; and, secondly, on *materia medica*, pathology, practice of medicine, surgery, midwifery, and medical jurisprudence.

"Sect. VIII. Students who profess themselves ready to submit to an examination on the first division of these subjects, at the end of the third year of their studies, shall be admitted to it at that time.

"Sect. IX. If any one, at these private examinations, be found unqualified for the degree, he must study during another year two of the subjects prescribed in Section II., Clause 1, in this or some other university,† as above defined, before he can be admitted to another examination.

"Sect. X. Should he be approved of, he will be allowed but not required to print his thesis; and, if printed, forty copies of it must be delivered before the 25th day of July to the Dean of the Medical Faculty.

"Sect. XI. If the candidate have satisfied the medical faculty, the dean shall lay the proceedings before the *Senatus Academicus*, by whose authority the candidate shall be summoned, on the 31st of July, to defend his thesis; and, finally, if the senate think fit, he shall be admitted, on the first lawful day of August, to the degree of doctor.

"Sect. XII. The *Senatus Academicus*, on the day here appointed, shall assemble at ten o'clock, A. M., for the purpose of conferring the degree; and no candidate, unless a sufficient reason be assigned, shall absent himself, on pain of being refused his degree for that year.

"Sect. XIII. Candidates for graduation shall be required to produce evidence of their having conformed to those regulations which were in force at the time they commenced their medical studies in a university."

74. *Medical Organization in Spain.*—Agreeably to a government decree, dated Sept. 5th, 1846, five faculties of medicine are established in Spain—viz., at Madrid, Cadiz, Valencia, Barcelona, and Santiago. The medical college of Madrid

* The numbers of this and the following sections have been altered by reason of the introduction of the 3d, as an additional section.

† The word "university" has been substituted for that of "school."

is judiciously seated in a noble edifice close to the general hospital, and has on the ground floor, four spacious theatres, two dissecting-rooms, &c.; and above stairs, the museum and library. At present, the duration of medical study in Spain is fixed at nine years, in order to obtain the degree of doctor, or only seven years for that of licentiate, in medicine; but the latter degree confers the privilege to practise in any part of Spain with the title of *medico-cirujans*, or physician-surgeon, (the "one faculty" being thus fully recognized even in the designation of the practitioner.) Only those who possess the doctorate, however, are eligible to professorships and as *agregés*, and to practise at watering-places; and the same degree will probably be hereafter required to enable its possessor to hold the appointment of hospital physician. At the end of the fifth year of study, the student acquires the title of bachelor of medicine, but this confers no right to practise. The following is the course of study as pursued at Madrid.

First year.—Medicine and medicinal chemistry, three times weekly, Prof. Usera; general chemistry, three times weekly, Prof. Masarnan; colloquial examinations on osteology and dissections, from eleven till two daily; descriptive and general anatomy, daily, Prof. Castello, jun.

Second year.—Natural history, daily, Prof. Obrador; physiology, theoretic and experimental,* five times weekly, Prof. Ysorn; hygiene, twice a week, Prof. Perez; dissections, from noon till two P. M.; general and descriptive anatomy.

Third year.—General pathology, four times weekly for four months; clinical medicine and hospital practice, for four other months; morbid anatomy, twice a week, for eight months, Prof. Lopez; therapeutics, materia medica, and prescriptions, five times weekly, Prof. Capdevila; dissections as during the second year.

Fourth year.—Pathology and clinical medicine, morbid anatomy, bandaging, surgical anatomy, operations, Prof. Toca; surgical pathology, daily, Prof. Fran; practical exercise of the foregoing.

Fifth year.—Surgical hospital practice, Profs. Argumosa and Solis; visceral pathology, Prof. Drumen; midwifery and diseases of women and children, Prof. Saura, all daily; practical exercises, as in the fourth year.

Sixth year.—Surgical and medical practice, daily—professors of the latter, Senor Gutierrez, Dean of the Faculty, and Callejo; practical midwifery, medical jurisprudence, daily, Prof. Mata.

Seventh year.—Midwifery, daily, Prof Corral; medical practice and jurisprudence, both daily; hygiene, twice weekly, Prof. Perez.

Eighth year.—Chemical analysis, three times weekly, Prof. Pou; hygiene, twice a week.

Ninth year.—Chemical analysis; medical history and literature, Prof. Asnero; both three times a week.—*Lancet*, Jan. 2, 1847, from *L'Observateur Français*.

[When shall we have to record any enactments by the medical schools of this country calculated to elevate the standard for the doctorate?]

* Under this head we are told—by the help of a "hundred vivisections," on dogs and sheep, the professor illustrates the functions of the nervous system, and of respiration, circulation, digestion, vomiting, &c.

FOREIGN CORRESPONDENCE.

London, Jan. 1st, 1847.

DEAR SIR:—Considerable excitement prevails at present among the surgeons of this metropolis, in consequence of some experiments which have recently been made with the ether, for the purpose of producing insensibility to pain during operations, as suggested by Dr. Jackson of Boston. Mr. Liston and Mr. Key both received communications from Boston, acquainting them with the result which had been there obtained, and as the character of their correspondents was such as to entitle them to the fullest credit, they lost no time in subjecting the matter to the test. On the 21st December, Mr. Liston amputated the thigh of a man who declared most positively that he suffered no pain whatever. He also operated for onychia, running the blade of the scissors under the nail to the radix, and tearing away the incised portion, with the same gratifying result. On the 26th December, I saw these experiments repeated at St. Bartholomew's in the presence of Mr. Lawrence, Mr. Stanley, Skey, and others, and all were perfectly convinced that the patients were completely insensible to pain. These latter operations consisted in the extraction of teeth from several individuals, and in one of them great force was required, and a longer time than usual was occupied, but the patient declared, when the effects of the ether were over, that all he could remember was "that he had been on a far distant journey." Among the rest, an Irishman took the operating seat, and when Mr. Stanley asked him if he wished it done with or without pain, he of course chose the latter, and when Mr. S. told him he must take something from the pot which was like gin, he appeared to be in a rapture of delight. However, after sucking away for a minute or two, Pat protested that "he could not faal it go down into his belly at all, at all," and he abandoned all further efforts to draw from a fountain, which by no means had realized his sanguine expectations. I ought to mention, that the learned editor of the British and Foreign Medical Review was present at the amputation at University College Hospital, who with Mr. Liston was equally delighted with the magical effect of this article. Mr. Key told me he would try it on a young woman the right half of whose lower jaw he was about to remove, but when the operating day arrived she was unwilling to submit.

On Thursday last, Mr. Fergusson operated on three patients at King's College Hospital, whilst under the influence of this substance, and although the operations were of a minor character, yet there could be no doubt in the minds of all present that the patients suffered not the least pain. The first was a case of phimosis, in which the operation generally produces much pain, but the patient declared that he knew not when it was done. The second was a man with a stricture, and Mr. F. stated that whenever he had attempted hitherto to introduce an instrument, it had given rise to severe distress. As soon as the patient was fairly under the influence of the ether, the instrument was readily passed, without any consciousness whatever on his part. The third and last, was a large abscess in the vicinity of the anus. The parts were exceedingly tender, and Prof. F. remarked, that he knew of no operations of the same magnitude which gave rise to more pain than these. Yet when the woman was affected by the ether, though the knife was deeply plunged, there was not the slightest manifestation of pain, and as I have before stated, every one present, among whom I may name Drs. Todd, Bowman, Budd, Farre, &c., expressed themselves completely satisfied that the declarations of the patients were correct. I must confess I felt some little anxiety in this last case, for the woman did not so quickly recover as was desirable, and I believe the impression generally produced was that unless great care was taken the most serious consequences might result. All the hospitals have now an apparatus for administering the ether.

Every practical surgeon must often have congratulated himself upon the facilities which the various speculums of modern invention have furnished him in the treatment of aural, uterine, and other affections, but I know not when I have seen any-

thing of the kind so ingenious as an instrument recently devised by Mr. Avery of the Charing Cross Hospital, for exploring the canal of the male urethra. Through the kindness of Prof. Fergusson, I was enabled to be present at the private examination of a patient at King's College Hospital, affected with stricture. Mr. Avery exposed the seat of the stricture with his simple contrivance in the most satisfactory manner. The whole apparatus consists in a conical metallic tube, into the outer funnel shaped extremity of which the light is thrown from a reflector, fastened to the forehead of the surgeon, through which is an orifice sufficiently large to admit the light to reach the operator's eye. No matter at what depth the stricture is seated, it may be distinctly seen, and a small narrow bladed knife, a bougie armed with caustic, &c., or any other application carried to the point without the slightest difficulty. Mr. A. informed me that he had employed it in seven cases, and feels very confident that we may derive the most important aid in the management of these tedious and obstinate affections. The same gentleman has much improved upon the speculums heretofore employed in the examination of the auditory canal. But as Prof. Fergusson alludes to this in the last edition of his *Practical Surgery*, I deem it unnecessary to describe it in detail. Mr. A. is also the inventor of an instrument by which the epiglottis and neighbouring parts may be seen with the greatest distinctness.

Prof. F. showed me a lad on whom he had some three or four weeks previously performed Mr. Syme's amputation at the ankle joint. This is the first time that it has been done by Prof. F., I believe, at any rate it is the first case of the kind in London. I must confess that before I had seen this patient, I had been prejudiced against the operation, but my prejudices were soon removed by the examination of the beautiful, thickly cushioned stump, which is formed by this method. In the last number of the *Monthly Journal of Medical Sciences*, the Editor has copied from some of the French journals the account of a case in which the operation was performed by M. Roux, Professor of Anatomy, at Toulon, and the editor in commenting, remarks that last summer, whilst on a visit to Heidelberg, he saw a patient on whom M. Chelius had adopted the same proceeding, and that the result had been most gratifying to that distinguished surgeon. During my stay in London, I have seen a great number of amputations of the legs, for disease of the tarsal and metatarsal bones, to which this operation seems peculiarly applicable, and I candidly believe that patients on whom it has been performed, need only to be seen, to cause it to be more generally adopted.

Some of your readers are doubtless aware that Prof. Fergusson lays claim to the credit of having made important modifications in the operation of staphyloraphy. He maintains that by his investigations, it has been for the first time placed on a scientific basis. As the paper containing the results of his researches on this subject, read in Dec. 1844, before the Royal Med. and Chirurg. Society,* has been published in their Transactions, and as especial notice is taken of it in the last edition of his *Practical Surgery*, I shall be brief in my notice of two very interesting and practical lectures which I had the pleasure of hearing him recently deliver on this subject. The improvement to which he lays claim in the operation consists in this, viz., the division of the levator palati, and the palato-pharyngeus muscles. He contends that by this step, all stress is removed from the sutures when the edges are approximated, and the parts are rendered completely passive. He said it had been objected to his proposition, that it was exceedingly difficult, if not impossible, to divide these muscles, and one of the most celebrated anatomists in London, had freely acknowledged that he could not understand how the division of the latter muscle in particular, could with safety, or with certainty be effected. This arose, Prof. F. observed, from their not considering the difference in the palate in its cleft, and in its natural state. In the latter condition, he admitted it would be a matter of very great difficulty, but this objection was obviated by the abnormal condition of the parts. He dwelt upon the contributions made by our own surgeons to this operation, and confessed that he could not boast of so great a number of operations or successful cases as belonged to Mettauer, Mütter, J. Mason Warren, Pancoast, &c., and this fact might lead many to imagine that after all, his modifi-

* [For abstract of this paper, see number of this Journal for April, 1845, p. 493-5.—Editor.]

cation was no real improvement. He had operated on ten patients, and eight out of the ten had been successful. Mr. Bowman, he said, had operated in two instances, and although in his first case, everything appeared very favourable, it was not successful, but in his second case, he adopted the plan which he himself had suggested, with the most happy results. But he could bring forward a still stronger example: a patient was sent to him from the Middlesex Hospital, on whom Mr. Tuson had operated three different times according to the usual method, and had failed in every instance, whereas by adopting his own modification, he had succeeded in uniting the cleft. Prof. F. had the kindness to show the dissection which had led him to the discovery of the action of these muscles, and of the great assistance which would probably be derived from their division. Prof. F. acknowledged, however, what I think must be apparent to any one who examines the parts, that we cannot always be positive that we have completely divided them, but he maintains that if the division is but partial, we thereby materially diminish the mobility of the parts. It struck me, that if his plan could be carried out, we should remove one great objection to the subsequent administration of food, an objection which we know from our own experience, belongs in a peculiar manner to the ordinary operation. Prof. F. says he is satisfied, and I believe those who have treated most of these cases, will coincide with him, that it is better that the patient should not abstain from a proper quantity of nourishment after the margins of the cleft have been united, as a degree of irritability is thus excited, which proves highly injurious to the adhesive process. There was one point to which he referred, which I think has not been sufficiently urged, if, indeed, it has been noticed at all, by writers on this subject, viz., the importance of patients being placed after the operation, under the instruction of a teacher of elocution. He said he had, together with his patient, in one case in particular, been sadly disappointed in the improvement of speech which followed the union of the cleft, and that he advised him to receive lessons in elocution. From the discipline to which he was subjected by an accomplished teacher of this art, a remarkable change was produced, and so clear and distinct was his enunciation, as to excite the astonishment of all with whom he was acquainted.

The last number of the Transactions of the Royal Medical and Chirurgical Society, contains a paper by Mr. Curling, on the new method of treating varicocele, and as he has treated up to the present time a much larger number of cases, than when his paper was read before the Society, it may be gratifying to the profession to be informed that his subsequent experience has convinced him of the superiority of the treatment which he adopts, over any that has hitherto been recommended. He applies a moc-main lever truss, with a pad similar to that of Chase's. At the point where the pad is fastened to the pelvic circle, is attached a spring which goes over the pad, and to which a strap is buckled, which passes under the perineum. By means of this strap the pressure is regulated, and Mr. C. informs me that he has in this manner treated upwards of thirty cases, and he gives it the preference over every other method. I find that in most, if not all of the London Hospitals, they make no attempt to effect a radical cure, and that they rest satisfied with the palliative treatment. The same observation applies with equal force to varicose veins of the leg, &c. In cases of varicocele, it is considered by some to be by no means desirable, even if possible, to effect a radical cure, as such is the peculiarity of the constitutions in which we meet with this complaint, that even if cured in one place, the veins in some other part are sure to put on the same character. In conversing with a distinguished surgeon who has had great experience, and who is regarded as high authority in one of the largest of these Hospitals, he declared to me, that if he himself was the subject of varicose veins, in any part of the body, he would prefer that they should remain unmolested, or at least that palliative treatment only should be adopted. When we consider the pain and other unpleasant results which not unfrequently follow the ligature of the spermatic artery, excision of a portion of the scrotum, pressure by the forceps of Breschet, &c. &c., which have been recommended, I believe most will agree that in attempting to afford our patient more than temporary relief, we cannot do better than to resort to the method which Mr. Curling suggests.

Paradoxical as his plan of treatment appears, Mr. Critchett, one of the Surgeons of the London Hospital, and of the Royal London Ophthalmic Infirmary, informs

me that he has thus treated two very bad cases, with most decided relief. In one, the veins were of very large size, but from the time the truss was applied, a decided improvement began to take place. It must be remembered that by this method a radical cure can only be effected by its application for a considerable length of time. From the anatomy of the parts, one would suppose that we could not adopt a surer method of increasing the turgescence of the affected parts, but the results of the cases thus far treated by the gentleman above mentioned, would certainly go to confirm the correctness of the opinion entertained by Mr. C., as to its *modus operandi*,—viz., that it takes off the weight of the current from above, and diverts that from below into other channels. A case occurred in my own practice some two years since, which strengthens my belief in this doctrine. A young man applied to me, whose left testicle had never descended below the external ring. A rupture accompanied this condition of the glands, which at times became exceedingly troublesome, and I disliked to attempt to keep it reduced by a truss, lest by so doing, I should prevent the return of the blood from the gland through the spermatic vein, and render its application insupportable. At last, however, I was obliged to adopt this plan, and much to my own surprise, the effect which I anticipated did not occur, and I think it would now be difficult to induce the young man to abandon its use.

As regards varicose veins in the leg, I may mention that, among the vast number of out patients which attend at St. Bartholomew's, may be seen almost daily patients who are under the treatment of Mr. Skey, and the assistant surgeons, who employ caustic issues. In the *London Medical Gazette*, for August last,* Mr. Skey gives us the result of his experience by this method up to that time, and both Mr. S. and his assistants assure me, that the cases which have since come under their care, but corroborate the statements contained in the article referred to. At the time his article was published, Mr. S. had treated some 30 or 40 cases, which number has been subsequently much increased, and as yet no bad consequences have followed.† This certainty is a strong argument in favour of this method, especially as the majority of the patients were of the lower classes. With but very few exceptions, Mr. S. assures me, that their sufferings have been remarkably slight, but in some 3 or 4 cases, the pain continued with but little abatement for 12 or 15 weeks. In nearly all, the relief has been positive: in a large majority the cure has been complete: in 2 or 3 cases the disease has returned, but the veins in these cases were soon obliterated by the application of issues, which were of small size. So strong is his confidence in the certainty and safety of this method, that Mr. S. uses the following, perhaps it may appear to some, too strong language: "I pledge myself from the first hour of their application, the function of the vein is suspended, and its operation is unattended with danger of any kind." That the success thus far attained by Mr. Skey is surprising, we think no one will dispute, but the past history of the attempts which have been made to effect a radical cure in these cases, is calculated to make one less sanguine in the assertion "that it is unattended with danger of any kind." Velpeau entertained equally strong hopes in relation to his operation. In more than 100 cases in which he had performed it, he says he met with no troublesome symptoms, but at last an end was put to his continual success, for fatal consequences ensued. Paré, Brodie, Mayo, and others who have resorted to the use of caustics, though perhaps not exactly as Mr. S. directs, have finally abandoned their application in consequence of the obstinate ulcers to which they have given rise, and notwithstanding all the arguments which have been brought forward in support of the various methods of Home, Fricke, Franc, Bonnet, Davat, &c. &c., the older and

* [An abstract of this paper was given in the preceding number of this Journal, p. 175-7.]

† In a letter published in the *London Medical Times*, Jan. 23, Dr. CHAS. CLAY, of Manchester, states that this mode of treating varicose veins was first suggested by M. LAUGIER, of Paris, in 1839, who treated by it successfully a large number of cases, the results of which were reported in the *Lancet*, for 1839, and 1840. And Mr. C. also claims to have been the first person in England, that confirmed Mr. L.'s practice, and to have improved on it. The results of his cases were published, he says, in the *Lancet*, for 1839-1842.—Editor.]

† In the *Annales de la Chirurgie*, vol. 5th, M. Bérard gives us the statistics of 500 applications of the caustic on 100 patients, and mortal phlebitis occurred but once.

more experienced surgeons in London are now content to recommend in these cases nothing more than *palliative* treatment. In a lecture which I recently heard Mr. Lawrence deliver on this subject, he expressed himself as strongly opposed to any other plan, and I know that Sir Benjamin Brodie is equally decided on this point. No one acquainted with the gentleman, can doubt that if there be one in this city, capable of conducting any plan of the surgical treatment of a case to a successful termination, that man is Mr. Skey; yet with all his ability and zeal, we think it is exceedingly problematical whether he can remove the prejudices which the past experience in these operations has *compelled* surgeons to entertain.

Some of your surgical readers may be anxious to know whether the treatment of aneurism by pressure, which has been so frequently and so successfully adopted in Dublin, is much resorted to by the London surgeons. As yet there have been but a very few cases treated in this manner. At St. George's, and at the University College Hospital, there have been in all, so far as I can learn, but 4 that have been successful, 2 in each institution. At the other hospitals, it has been occasionally attempted, but the pain was so great as to be intolerable. I saw a patient at Guy's under Mr. Key's care, on whom an instrument like a tourniquet, embracing, however, only half the limb, had been applied for ten days, but so dissatisfied were both Mr. H. and his patient, that he ordered it to be removed, and the ordinary operation was afterwards performed with success. The impression produced by this method in the above case, was so unfavourable, that in all probability it will not soon be again employed at Guy's, especially by Mr. Key; yet I cannot but believe, that had a proper instrument been used, such a one as Read's, represented in the last number of the Dublin Journal, the result would have been very different. There can be no doubt that an instrument, which like this, makes its *point d'appui* on the pelvis, can be so managed that a sufficient amount of pressure may be obtained without subjecting the patient to the torture which seems to have been the almost invariable result of those which embrace the limb itself, making it the chief point of support. A method of treatment sanctioned by such men as the late Dr. Todd, of Dublin, Sir Philip Crampton, Mr. Bellingham, Mr. Porter, Harrison, and others, whom it is unnecessary to mention, has certainly strong authority in its favour, and if more were wanting to convince us of its superiority and safety over the Hunterian method, it need be but an examination of the different collections of pathological specimens with which the London Hospitals abound, where may be seen sufficient to corroborate the statement of Prof. Porta, of Pavia, in his recent publication on the Arteries, that 1 out of every 7 cases of ligature of the femoral is followed by death.

In one of the most interesting and richly illustrated lectures on Aneurism, I have heard, Prof. Fergusson after relating several cases of spontaneous cure which had come under his observation, stated that he had been led from reflecting on what must occur in such cases to suggest a plan of treatment which at first might seem to be by no means unattended with danger. A patient was under his care affected with an aneurism of the subclavian, on whom he expected soon to operate. The man was exceedingly fond of very active exercise, and whilst engaged in swimming, he felt something suddenly give way in the part with a snap, and from that time all pulsation ceased, and the patient was perfectly cured. The cure, in this instance, Prof. F. supposes arose from the dislodgement of a portion of the concentric layers of fibrin which is generally present in the aneurismal sac, and by which the current was obstructed, and the blood more readily permitted to coagulate. Now Prof. F. thinks we might often produce the same effect by suddenly grasping the tumour, and pressing it with much force, as we should thus effect a similar dislodgement. He does not believe that this method would be the cause of the rupture of the external coverings of the sac, as with the exception of those cases in which it is about spontaneously to burst, and in which it would be obviously improper to make such an attempt, these layers are of great strength. The success which has been attained by pressure in some of these cases, illustrates in a striking manner, the truth of the declaration made long since by the immortal Hunter, viz., that the force of the circulation being taken off from the aneurismal sac, the progress of the disease would be stopped, for it is now most satisfactorily established, that to effect a cure it is only necessary that the force of the circulation should be diminished, and not that it should be completely destroyed.

"Facts prove," says Mr. Bellingham, "that any obstruction to the current of blood by which its velocity and amount are diminished, will accelerate the deposition of fibrine in the aneurismal sac, and that once this process has commenced, if the same agents continue in operation it will go on until the sac becomes filled, and no longer permits of the entrance of blood." The suggestion of Prof. Fergusson certainly appears very plausible, and the experiment well worthy of a trial.

Some two or three days since, Mr. William Cumming, late House Surgeon to the London Hospital, had the kindness to show me some very interesting experiments of which he has made a great number during the past year, showing that the luminous appearance of the eyes of cats, dogs, rabbits, oxen, &c., is not confined to these animals, but that it exists in the human eye, and its absence or presence may be advantageously applied to the detection of disease of the retina and posterior part of the eye. He informs me that his attention was first directed to this matter, in consequence of an examination which he made by night, of a patient affected with amaurosis, being, as he supposed, that form of it described by Beer, as the cat's eye amaurosis. Further observation convinced him, however, that this peculiar reflection which is also noticed by Mr. Tyrrell, in the second volume of his valuable work, on the diseases of the eye, might be seen in all cases of this affection, in which the retina has suffered no change of structure, and the chief value of his discovery consists, in his opinion, in our being now enabled to determine whether the cause of the amaurosis exists in the brain or the retina itself, a point of considerable importance in forming a prognosis in these too often hopeless cases. To detect this luminous appearance, the patient must be placed 10 or 12 feet from a gas or other bright light, the rays of which must fall directly on his face, and all passing laterally must be intercepted by a screen, placed half way between the light, and the eye examined. If the reflection be bright, it may be seen at once from any spot between the light and the screen. The experiment may also be made in a dark room, by placing the light some 5 or 6 feet from the eye. This I think by far the most satisfactory method, for in the examinations which I myself made, it was much more distinct in the latter than the former plans. If this luminous appearance be absent, according to Mr. C. we are to infer that the retina is the seat of disease; if present, then the difficulty is cerebral. Those who wish to become more fully acquainted with the views of Mr. Cumming will find further details in the last volume of the Transactions of the Royal Medical and Chirurgical Society.* I have taken some pains to learn the opinions of those whose experience in the treatment of ophthalmic affections, renders any observations they may make of great value, and though all with whom I have conversed, express themselves satisfied of the existence of this appearance, as Mr. C. has pointed out, yet they seem to think that it will be long before the directions which he has laid down will be carried out, as there is always so strong an aversion on the part of the majority to embrace anything that is novel, especially if, as in this case, there is apparently some little study required to enable us to become acquainted with the diversity of appearances which are to be met with in different individuals. I can assure those who feel disposed to try the experiment, they will find themselves amply repaid for their trouble. It is indeed surprising, that so valuable a suggestion even as that of the catoptrical examination, which renders us such valuable assistance in the diagnosis of obscure affections of the crystalline lens, should be still almost entirely unknown, or at least but seldom resorted to by the great body of the profession: but I believe the same reluctance has always been manifested towards innovations. At the Royal London Ophthalmic Infirmary, extraction is almost invariably performed for cataract, especially in adults, and the treatment generally pursued by Mr. Tyrrell in his later days, is that which finds most favour with these who now occupy his place.

Hospital gangrene is quite prevalent at present, particularly at St. Bartholomew's. It has made sad havoc with some of the patients who are in the house for injuries received, or on whom it has been necessary to operate. Cases have also occurred at St. George's and University College Hospitals, but of a milder character, yielding to the application of the nitric acid. Passing through the wards

[* We have before us Mr. Cumming's very interesting memoir, and shall give a full account of his observation in the summary of the next No. of this Journal. Ed.]

at St. George's some three weeks since with Mr. Hawkins, I saw a child six or seven months old, who was suffering in a dreadful manner, from the ravages of cancrum oris. Mr. H. had not the slightest hope that he could avert a fatal termination, yet I was much surprised in accompanying him in his visits on Tuesday last, to see the same child so changed that I could hardly have recognised it. Its cheeks were now quite plump and fresh, and although a large portion of the lower jaw had come away, still no one would suppose at first view, that anything was wrong. On inquiring of Mr. H. to what he attributed this remarkable change, he stated that he had given the chlorate of potash in 15 gr. doses three times in a day, and that in 48 hours from its first administration its beneficial effects began to be apparent. Although this certainly seems to be a pretty large dose, Mr. H. observed that he had never known it produce any unpleasant results.

London, Feb. 2d, 1847.

In my letter of Jan. 1st, I related the results of the experiments which had been made with the *ether* up to that time. Since I wrote hundreds more have been made and the inhalation has equalled the most sanguine expectations of all who have tried it, or who have witnessed its astonishing effects. I have seen lithotomy, hernia, amputations, extirpation of scirrhus breasts, &c., and during the whole proceedings, the patients have been entirely unconscious. The political and medical journals are filled with the accounts of operations, which have been performed not only in London, but Ireland, Scotland, and even France. Mr. Lawrence has extirpated the eye, and in the case the triumph of the ether was complete. As yet no accident has happened, or if any have occurred, it has not been made known. Two of the patients operated on died a few days afterwards, the boy at Guy's on whom Mr. Morgan operated for stone, but his kidneys were extensively diseased, and Mr. Skey's patient, (the Cæsarian section,) died in about 36 hours, although she was kept under the influence of the ether only long enough for the external incisions to be made. After the child, which was and is still alive, was extracted, the uterus did not contract well, and she was kept on the table for half an hour, during which cold water was poured upon the organ, &c. She died from exhaustion. This sad termination of the case is much regretted by the profession generally. An unusual interest was felt in the patient, as the majority of the cases in which the operation has been performed in this country have proved equally unfortunate. Every preparation was made, every precaution taken, and the whole operation executed in the most admirable manner, yet she continued to sink until she died. The patient was about twenty years of age, and the antero-posterior diameter of the pelvis, when the soft parts were removed, measured but $1\frac{1}{2}$ inches. Drs. Rigby, Blundell, Fergusson, and many others were present, and lent Mr. Skey their valuable assistance. It has been thought that the ether prevented the uterus from contracting, but this is very uncertain, as Dr. Simpson has just reported, a case of difficult labour conducted to a happy termination, under the influence of the ether, the uterus continuing to contract, but the patient suffering no pain. I understand, however, that it has been tried in a case of abortion here, and in that case it checked uterine action. The discovery is regarded by all as the most wonderful of the present century, and from the manner in which it is used at every hospital and in private practice, much will undoubtedly soon be learned, and in my next I may have some strange results to relate.

G. C. B.

Sulphuric Ether in Surgical Operations.—Extract from a letter written by an American physician, dated Vienna, Feb. 19th, 1847.

"Of late the whole medical world here has been occupied with the new discovery of the insusceptibility to pain of persons under the influence of sulphuric ether. Many trials have been made with it in the hospital, and within a short time, also, in private practice, all of which, as far as I can learn, have perfectly succeeded. I witnessed, myself, an amputation of the thigh, and the resection of a part of the lower jaw performed upon patients who had breathed the ethereal vapour. The latter operation lasted *an hour and a quarter*, and the ether was inspired at intervals, so as to keep the patient (a woman of 25 years of age) under its influence. Both operations were completed without the least manifestation of suffering by the patients. As yet I have heard of no untoward consequences following any of the operations."

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Anatomical Anomaly.—By SAMUEL PARKMAN, M. D., Demonstrator of Anatomy, Med. Depart. Harvard University.

In a male white subject, with a remarkably well developed muscular system, I noticed the following anomaly which is not without practical importance. It is well known to anatomists that it is not uncommon to find traversing the axilla, a muscular band extending from the external border of the latissimus dorsi muscle to the corresponding one of the pectoralis major. In the case in question, the strip was about one and a half inches in length, and the size of the little finger; it left the latissimus at the point where its muscular fibres cease and the tendinous commence, and was attached to the pectoralis tendon just at its humeral insertion. Consequently the bundle composed of the artery surrounded by the brachial nerves, where it lay between the anterior and posterior tendons, just as it emerges from the axilla, and where we should select to tie it in case of need, was crossed by a muscular bridge lying between it and the fascia and integuments. Such a band would of course require division before the artery could be attained and might seriously embarrass an operator who was not prepared for it. The anomaly existed on both sides. Malgaigne in his *Surgical Anatomy* mentions, that while demonstrating to his class the ligatures of the arteries, he encountered a muscular band, which he at first mistook for the coraco brachialis muscle, but recognized his error by not finding the nerves, &c., to its inside. This evidently was a different condition from the above, probably a variety of the usual anomaly; he has neglected to mention exactly what it was.

Anteversion of the Womb with adhesion of Os Uteri to body of 4th Lumbar Vertebra, &c. By SAMUEL TYLER, M. D., of Fredericksburg, Md.

My father was called to see Mrs. D., about the last of the month of August, 1846. Her case had been represented to him by a female attendant, as one of carcinoma uteri, of some considerable duration. The following condition of her case, upon his first visit, is, I believe, *minutely* correct.

Her pulse feeble, countenance indicating pain and anxiety. There was considerable discharge of pus and sanguineous fluid; uterine pains not very great. An examination *per vaginam* revealed an orifice, the size of the *os tinæ*, not much dilated, discharging the fluids above mentioned. The abdominal swelling at this time was not greater than is common to any organic disease of the womb.

Her condition continued thus without amelioration, "though she was treated *secundem artem*, after my father's first visit," until some time in the month of November, when she was persuaded, without our knowledge of course, to take medicine of a noted empiric, of our county, from which resulted an exalted action of the uterine organs, followed by hemiplegia of

the left side. In this state she lingered, sustained by narcotizing doses of morphia, until the 30th of December, 1846.

Having obtained the consent of the relatives, (assisted by two of our students,—Messrs. Morgan and Steiner,) I made an autopsy which revealed the following appearances:—

Upon opening the abdominal cavity, my surprise was rather great to find the uterus perfectly healthy, or at least as much so as circumstances could possibly admit; but *perfectly anteverted; and the os uteri closely adherent to the fourth lumbar vertebra.*

Making a transverse section of the womb, found within its cavity, a *full-termed fœtus*, and it was then I found that the opening which discovered itself *per toucher*, was a fistulous orifice made through the under portion of the cervix uteri, by the pressure of one foot of the fœtus, the bones of which had discharged themselves *per vaginam* unobserved; the fœtus being perfect with the exception of the bones of the *left* foot.

This case presents many peculiar and interesting circumstances, and the position of “anteversion” is one not noticed by many of the best authorities.

Burns, (page 192, vol. 2d.) remarks “of this accident, I have never seen an instance, and, from the nature of the case, it must be *very rare!*”

Denman makes no mention of it, and Ramsbotham mentions neither retro—or anteversion.

Baudelocque says, “It seems from the structure and connections of the parts, as well as from observation, that the anteversion cannot become so considerable as the retroversion; besides it is much more *rare.*”

Our distinguished countryman, the late Dr. Dewees, whose authority in such matters is pre-eminent, says, “This accident (which he terms ‘anterior obliquity’) is in exact proportion to the want of resistance from the abdominal parietes,—hence it is *rare* in a *first* pregnancy. (The case related was a fifth or sixth.) He considers a degree of anterior obliquity, which of course does not equal the case here mentioned, as a common occurrence in subsequent pregnancies, in females of relaxed fibre, and gives an excellent method of treatment. (See *Dewees’ Midwifery*, page 120.)

It would not be amiss here to remark that, previous to our connection with this case, it had undergone various methods of *empirical* treatment, and only fell into our hands after empiricism and its *consequent suffering* had entirely *masked* its true character—so that nothing was left to us but to palliate the injuries inflicted by the rude hands of charlatanism.

If it be not out of place here, I would like to mention the singular termination of a case of uterine polypus, occurring in the practice of an able physician of this county, (*Dr. James Johnson.*) Mrs. T. had been afflicted for twelve months past, with the symptoms usually consequent upon the occupation of the womb by a tumour, (the polypus having existed for that length of time, and being attached to the cervix uteri.)

Dr. J. requested me to visit her for the purpose of removing the tumour.

On our arrival at the house, we found that the polypus had entirely detached itself a day or two previous, just at the period she looked for her regular menstrual discharge, which had never been interfered with, until the two preceding menstrual terms. The tumour had the appearance of bloody coagulum, and melted away, as it were, under the touch.

DOMESTIC SUMMARY.

Effects of Mercury on the Young Subject. By JOHN B. BECK, M. D., &c., (The *Analyst*, 15 Jan., 1847.)—The aim of the accomplished author in this interesting practical paper, is to show that mercury exhibits the following peculiarities in its operation on young subjects, viz:—that children are salivated with great difficulty, and that notwithstanding this, the effects of it are frequently more energetic and uncertain than they are in the adult. And it is upon these as the basis, that he makes the following remarks bearing upon the practical application of it in young subjects.

"1. If salivation occurs so rarely in children under a certain age, then it is evident that it can never be made a criterion by which to judge of its influence on their systems. To attempt, therefore, to produce this effect, as we do in adults, is manifestly improper. In cases where it is desirable to get the system under the full influence of the remedy, other modes must be resorted to for the purpose of judging to what extent the use of the article should be carried. Now this is by no means easy. Even in adults, where we have the benefit of salivation as a test, all practical physicians are aware how difficult it is, frequently, to decide when it is proper to stop the use of the remedy. How much more so must this difficulty be increased in the young infant, where we are left without this guide. The only modes of judging, of course, are the character of the evacuations from the bowels, and the general impression made upon the disease for which it is administered. Both these are evidently, however, uncertain. It is to be feared, therefore, that for the want of a more certain guide than we at present possess, the use of this remedy is, in many cases, unnecessarily protracted to the great detriment of the little patient. From all this the conclusion is obvious, that in the use of this article in the young subject much greater caution is necessary than in the adult.

"2. The fact that mercury may prostrate and destroy a young child, even though it does not cause salivation, it is to be feared is not sufficiently appreciated, at least by some. We have known calomel given without weight or measure, to a young child, and the reason assigned to justify it was, that it could do no harm, because it would not salivate. Now it appears to me that no opinion can be more unfounded, and no practice more mischievous. Although a single dose of calomel, even though large, may be well borne by children of ordinary strength of constitution, yet even this is not entirely safe in all cases. And when these doses are frequently repeated, particularly in delicate habits, the most serious consequences may result.

"3. The use of mercury in young subjects as an alterative, should in all cases be conducted with great caution. There is no practice more common than that of continuing the use of this agent in small doses, for a considerable time, and certainly none which is more liable to abuse. Under the idea that the dose is so small and from no salivation appearing, we are apt to infer that even if the medicine is not doing any good, it is certainly not doing any harm. Any improvement too, which occurs during the use of the article, is sure to be attributed to the silent operation of it on the system. Now although this is not unfrequently the case, yet it is not invariably so; and every observing physician must have been aware of cases, in which, in this way, the article has been unnecessarily and injuriously continued. In bowel complaints, under the idea of altering the secretions, it has frequently, no doubt, helped to keep up the very intestinal irritation which it was given to correct. In other cases it has developed the latent tendency to other diseases, such as Scrofula, Phthisis Pulmonalis, etc. In adults we know this to be very often the case. How much more likely is all this to happen in the young infant.

"4. In the use of mercury in young children, great care should be exercised in ascertaining, as far as possible, their constitutional peculiarities. This, of course, is not in all cases easily to be done. A good deal, however, may be learned from an acquaintance with the tendencies of the parents. Wherever the patients show indications of scrofula, or where there is an hereditary predisposition to con-

sumption, great caution ought to be exercised in the use of mercury in their offspring.

5. Mercury should be administered with great caution, in cases where a child has been sick for a considerable length of time, and when the strength of the child has been very much reduced. In this state of constitutional depression, a single cathartic dose of calomel sometimes proves fatal. We think we have seen more than one case, in which a child has been irretrievably prostrated under these circumstances, under the false impression that calomel is an innocent purgative to a child.

6. The too common practice of giving calomel as an ordinary purge, on all occasions, is certainly unjustifiable. From the facility with which it may be given, it is unquestionably resorted to in a great number of cases, where it is certainly unnecessary, and in a great number where it positively does harm. The misfortune is, that its use is not limited to an occasional dose, but it is too often given in every slight indisposition of the child. Now, in this way, there can be no question that the use of it has laid the foundation for the ruin of the constitutions of thousands. It ought to be a rule laid down and rigidly followed, that in very young children, mercury ought never to be used as a cathartic, unless there is a special reason for resorting to it. In a great majority of cases, milder cathartics are decidedly to be preferred.

In concluding these observations, I trust it may not be supposed, that my intention has been to undervalue the importance of mercury as a remedy in the diseases of children. On the contrary no one appreciates it more highly than myself. In many cases, nothing can supply its place, and its judicious use has been and is, the instrument of saving multitudes of lives. Notwithstanding, however the many cautions to the contrary, it is to be feared that the use of it is still too general and indiscriminate. Indeed, the amount of it which is taken by the human race in one way or other, is incalculable. What is given by regular physicians, is perhaps the smallest quantity. If the public really knew how much of this article is swallowed unknown to themselves, in the shape of bilious pills, worm lozenges, and the white powders of the Homœopaths. they would be amazed at their credulity in deserting their old medical advisers, because they have the boldness to give them an occasional dose, and the honesty to tell them so.

Amputation for Scrofulous Diseases of the Joints. By DANIEL BRAINARD, M. D., Professor of Surgery in Rush Medical College, (Ill. and Indiana Med. and Surg. Journ., June and July 1846.)—The object of the author of this interesting paper is to show that in scrofulous diseases of the larger articulations, many limbs which are ordinarily condemned to amputation, might be saved; and he relates the following cases in support of this opinion.

"CASE I.—*Inflammation of the knee, of three months' standing, caries of the bones and suppuration; recovery without amputation.*—Feb. 21, 1838, I was called to visit J. B., a boy of 12 years of age, of scrofulous habit, affected with inflammation of the right knee. The history of the case, as far as ascertained, was as follows:—About three months previously he had a fall, and injured the joint slightly. This was soon followed by slight pain, gradual enlargement and heat, which, increasing, gave rise to constitutional irritation. He was treated with antiphlogistic remedies, but the disease of the joint progressed until the period when I saw him, when it presented the following appearances. The entire limb was much swollen from the toes to the hip, and about the knee there was redness and exquisite tenderness. Several points presented distinct fluctuation, which extended to the popliteal space, downward upon the sides of the leg, and upward to near the hip.

There were great emaciation, dry tongue, frequent pulse, chills, and profuse night sweats, with diarrhœa.

Free openings were made about the joint, which gave exit to an immense quantity of thin, whey-like pus, and on passing a probe, the articular surfaces of the tibia and femur were found rough and carious. The patient was put upon the use of acids, bitter tonics, and anodynes to allay pain, but for two weeks no improvement took place. Amputation was then proposed, but the terror it excited in the patient, and the great aversion of the parents, prevented its acceptance. He was accordingly continued upon a tonic course, and as the serous discharge

from the joint and the adjoining purulent foci, was abundant and offensive, into these were freely injected a solution of sul. copper, gr. iv. to the oz. of water. For two weeks longer, scarcely any change could be perceived, but at the end of this time a diminution and improvement in the quality of the discharge was noticed. Soon after, the great tenderness having been diminished, a many tailed bandage was applied from the ankle to the hip, so as to remove the œdema, and compress the purulent cavities.

As soon as the stomach could retain it, rich beef soup was given. Under this course of treatment there was a gradual improvement, and at the end of June—more than four months from the commencement of the treatment—he was able to walk on crutches,—the knee being ankylosed in the straight position. With the exception of this ankylosis, entire recovery took place, and the young man is at the present time (1846) able to follow a laborious occupation.

CASE II.—*Scrofulous disease of the ankle of six years' standing, suppuration and caries; recovery without amputation.*—Hogan, aged about thirty years. This was a case of scrofulous disease of the ankle, of six years' standing, which came under treatment in the dispensary of the Medical College at Chicago, in the winters of 1843, '44, and '44, '45. Suppuration had continued for a long time, but at length ceased. The limb was emaciated, the joint enlarged, stiff and cold, and the member quite useless. The general health was much impaired, but there were no symptoms indicating danger to his life. He had been an inmate of many hospitals, and amputation had been advised, which he declined from timidity. He was put upon a good diet, with hyd. potass, gr. x, twice daily. This was continued at intervals, for several months. A firm immovable apparatus of starched cotton rollers was applied so as to effect the following objects, viz: preserve perfect immobility of the ankle, gently compress it and preserve its temperature. This treatment was persevered in eighteen months, at the end of which time, only a stiffness and rigidity—the effect of the disease—remained, and in March, 1846, he was in good health, using the limb freely, and pursuing an active employment.

CASE III.—*Chronic Scrofulous disease of the knee, of long standing; suppuration; recovery without amputation.*—July 6, 1843, prescribed for F. M., a girl of 12 years of age, affected for many years with an enlargement of the inferior extremity of the right femur, attended with flexion of the leg to an angle of 45° with the axis of that bone. There was pain, slight and occasional, heat moderate, synovial effusion into the joint considerable, with impaired digestion, and an irritable debilitated state of the constitution. She was put upon a course of tonics with good diet, free exercise in the open air, while the knee was preserved in a state of perfect immobility, and protected from changes of temperature.

For upwards of a year the state of the disease, and the general health improved, so that she commenced to use the limb. This was followed by a return of the heat, pain and swelling, in a greater degree than before, and notwithstanding that these were combated by repose and antiphlogistic treatment, extensive suppuration took place, and a free opening was made with the caustic potash, upon the outside of the joint, Feb. 1, 1845.

Free suppuration, with all its local and constitutional effects, was established, and the same treatment adopted as in the first case, and at the end of five months from the time of making the opening, it was entirely healed, the general health good, and only a false ankylosis, in a partially flexed position remaining. By the use of gently extending means, this is so much removed, that she walks without difficulty, her general health is excellent, and but a few weeks more will be required to entirely straighten the joint.

CASE IV.—*Caries of the Ankle. Long continued suppuration with hectic fever. Amputation and Recovery. Return of the disease in the form of tubercular consumption. Death.*—This case being one in which we were only called occasionally to consult, we were only acquainted with the most prominent facts and not with the details.

It was first seen July 13, 1845, and presented at that time the usual appearances of that articulation when affected with long continued caries and suppuration.

There was also hectic fever with its usual attendants, emaciation, diarrhœa, &c. Amputation was performed by the attending surgeon, on the 18th of August following; the stump healed well, and the patient soon recovered his usual *embonpoint*

and health. Symptoms of phthisis, however, soon developed themselves, and when last visited by us in February, 1843, he was in the last stage of that disease, and died soon after."

Prof. B. states, in the region where he resides, amputation is sometimes culpably resorted to in scrofulous diseases of the larger articulation, even before suppuration or any alarming symptoms have taken place, and he relates the following example.

"December 6, 1845, we were requested to visit W. M., a young man of about 20 years of age, residing 23 miles south from this place, for the purpose of amputating his thigh. We visited him in company with our colleague, Prof. Herrick, and found him in the following state: the right knee was somewhat swollen, red, tender, and painful, without any sign of suppuration.

"Slight irritation of the general system, but no chills, sweats, or diarrhœa. The disease had existed for several years, but so slightly as to allow him to follow some useful employment, and had recently become aggravated while he was undergoing a course of active medication. Of course we declined performing amputation, and advising gentle alteratives, evaporating lotions to the part, with anodynes if the pain was severe, encouraged him to hope that by perseverance, he would preserve not only his life, but a useful limb.

Soon after we learned that amputation had been performed."

Case of Vicarious Menstruation from an Ulcer on the right Mamma. By E. C. BAKER, M. D., of Abbeville. (*Southern Journ. of Med. and Pharm.*, March, 1847.) —The subject of this case was a girl about 20 years of age, who had been suffering for a length of time from an affection of the breast supposed to be cancer, and which had resisted all the popular remedies for the cure of that disease. The patient was anemic and chlorotic when seen by Dr. B., and presented the usual symptoms attendant on those conditions. She was emaciated, had beating of the carotids, skin pale-yellowish, with faint tinge of green, dark areolæ under the eyes, the latter wanting lustre, lips bloodless; easily fatigued on slight exertion, shortness of breath, suffers from "giddiness of head," "much more at times than at others," seldom free from it for the last six months, sometimes amounting to total blindness, which lasts for a few minutes; bowels habitually constipated, fæces indurated, ash-coloured, appetite irregular, indigestion, tongue slimy, moist, foul, covered with a thick yellowish-coloured fur; frequently throws up her food soon after eating. Had never menstruated regularly or freely, and for the last six months, nothing but a thin, pale-yellowish glairy discharge took place at each monthly period, sometimes slightly coloured with blood, and this discharge *now*, in smaller quantities than formerly. On exposing the right mamma, Dr. B. found it much more perfectly developed than could have been expected from her general appearance. The breast was somewhat flaccid, the nipple prominent, the superficial veins running to the nipple larger and more tortuous than natural; the whole having the appearance of a mother's breast, from which the milk had just been drawn. She said it was larger "at times" than at present, and it *was always larger* than the *opposite mamma*, which Dr. B. was not permitted to examine. About $\frac{1}{4}$ of an inch from the outer edge of the areola, (which was large and well defined,) and immediately under the nipple, was an ulcer with slightly elevated edges, measuring across the base $1\frac{1}{4}$ inches, with an opening in the centre $\frac{1}{4}$ of an inch in diameter, at this time covered with a thin scab, which on being removed, and a gentle pressure applied around the base of the ulcer, a few drops of thick mucopurulent matter were discharged, not very offensive to the smell. The ulcer appeared to be of an indolent fistulous nature, not painful to the touch, edges callous, the breast feeling as though a tumour, the size of a hen's egg, occupied the substance of the gland, directly behind the nipple; the tumour was slightly movable. On introducing the probe it passed upwards and backwards $2\frac{1}{4}$ inches, terminating in a cul-de-sac. From the mother's description of the "cancer," Dr. B. expected to see a bad sore, but he saw no marks about the ulcer indicative of malignancy; the axillary glands were not enlarged or painful, although she suffered pain there when she used her right arm much; the family had not been subject to any scrofulous affections. The mother stated that about *every month* the *breast enlarged*, the *ulcer inflamed*, and a *discharge of sanious purulent matter* took place, which lasted

for a few days, and then "dried up;" that at first, the sore discharged but little, and that at irregular periods. At these times she suffered most from giddiness, severe pains in the lower portions of her abdomen, and sickness of stomach. Miss H. states, that about four years ago, in stooping over some bushes to take an egg from a hen's nest, she struck the point of a leaf of the palmetto royal into her breast; the point, which is very sharp and brittle, broke off; that she supposed she had extracted the whole of it, but the place inflamed and continued sore for more than a month, when it suppurated and another piece of the palmetto point was discharged; that the sore had never since been healed completely, but was getting "better and worse," ever since, at first discharging a little "thin blood" at irregular periods, but for the last year, every "*four or five weeks*;" it became very painful, preventing the use of her right arm and discharging a thick purulent matter in considerable quantities. At these times she also suffered from sick stomach, giddiness, and severe pain in the lower portion of her abdomen. She believed it to be getting worse every month: the last time it "inflamed," she had some calomel blown into it, which "dried it up," but produced such alarming symptoms, as giddiness, loss of sight, "cramp in the bowels" and vomiting, that she consented to have Dr. B. called in. The mother remembered that the injury was received about the time the *menses* were making their appearance, at the age of 14 or 15, that her daughter then became "irregular," and for the last two years, since the breast began to "run freely," had had little or no discharge from the uterus, and when any, a mere "show" of a little thin whitish fluid, small in quantity. From this history and the symptoms, Dr. B. regarded it as a case of *vicarious menstruation*, the ulcer was of a fistulous nature, with a *false secreting* surface, internally. He directed the ulcer to be injected twice a day with tepid water, using castile soap, simply to free it from any irritating matter; a dressing of cerate to be applied externally, and over all, several "bats of cotton" to protect it from any friction; to remove everything like "stay lace" or tight-bodied dresses, and to substitute a *loose gown*; not to sew any heavy cloth, to take free exercise in the open air. Her liver being considerably enlarged and slightly painful on pressure, (having suffered from intermittent fever,) ordered R.—Hyd. sub. mur. grs. xji; comp. ext. colocynth grs. vj; soap grs. vijii, to be divided into twelve pills, three to be taken at bed time, and repeated the next morning every second day, until the evacuations assume a more healthy colour. Also, croton oil x gt., olive oil c gt., to be rubbed in over the region of the liver every night, until a full crop of pustules be produced, and this *kept up*. Dr. B. requested them, when the ulcer began to "inflamm" again, to send for him.

Feb. 25. Improved in general appearance, skin more clear, bowels more regular, faeces at first black, now light brown, appetite somewhat better, liver still painful; continue croton oil, discontinue calomel pills; and as there is still a tendency to constipation, unless recourse was had to medicine, substituted for the cal. and colo. R. aloes grs. xx; rhei. pulv. grs. xv; gum guaiac op. xv grs.; gum myrrh. xx; caryoph. x grs.; syr. q. s., to be divided into nine pills. Dose, three night and morning, to be increased if necessary. Friction to the spine, and generous diet allowed.

March 7th. General health much improved, no alteration in the condition of the ulcer or breast, except that it is more comfortable; less soreness over the liver; discontinue croton oil; constipation returned when pills were discontinued; believed the pills "were curing her;" ordered in conjunction with the pills, syrup ferri. iodid. xji m., to be taken daily, increasing the dose gradually.

March 17th. Breast much enlarged, whole mamma assuming a different aspect. Ulcer much inflamed and painful; veins corded and deeper coloured, the ulcer discharging a sanious yellowish matter freely, but without much smell; the injection to be discontinued until the discharge should subside. Ordered warm hip baths and stimulating pediluvia, and this to be repeated at the approach of each periodical discharge, and friction to the lower portion of the spine to be persevered in. Continue the aloetic pills as before, and take syrup iodide of iron. This treatment was continued with little variation, for six months, with increasing benefit; her general health improving, and the monthly discharge from the uterus gradually increasing in quantity and becoming more natural in quality: that from the ulcer diminishing in proportion. At the end of this time, Dr. B. deemed it

prudent to attempt to heal the fistulous ulcer. R.—Iodin. grs. iij; sodii. chlorid. xij; solve in aqua dest. oj, to be injected twice per day, after cleansing out the ulcer with castile soap and warm water; a compress and bandage was now used to bring the adjacent walls of the ulcer in contact, and a strong solution of iodine in alcohol* was also applied to the whole external surface of the mamma. The induration within the gland gradually disappeared and the ulcer closed up in about six weeks more. The patient at the end of this time was quite restored to health, and the uterus had resumed its natural functions.

Singular case of laceration of the Broad Ligaments. By GEO. T. ALLEN, M. D., of Marine, Madison Co., Ill. (*Missouri Med. and Surg. Journ.*, Dec. 1846.)—The subject of this case was a married woman, 27 years of age, weighing about 125 pounds, who, while arranging a window curtain, Oct. 17, 1843, fell a distance of about four feet astride the top of a chair. The immediate effects of the fall were a slight gush of blood from the vagina, and an inclination to faint which continued for several hours; after its subsidence, she seemed as well as usual, with the exception of pain in the soft parts that had been bruised: these were so much hurt as to prevent any other than a superficial examination, and to induce a full belief that the only injury was external. The patient sat up the greater part of the two days succeeding the accident, without any other unpleasant feeling than that from the outward injury. “While at the tea table, on the evening of the third day, violent palpitations of the heart commenced; she became faint, and, although immediately placed in the recumbent position, remained so, much of the time for about six hours; her toes—to use her own words—seemed to die, and this semblance of death extended, gradually, in a wave two inches wide, from her toes to her feet, ankles, legs, knees, thighs, and body, and in same manner, from her fingers, and her body to her neck, brain, and thence off at the sinciput; occupying, perhaps, five minutes in its transit; immediately returning in the toes, and passing off as before: thus continuing for the space of six hours, succeeded by an interval of six hours, and alternating several consecutive days; each succeeding attack being milder than the preceding, until they ceased to manifest any periodicity, but returned occasionally, during the first year. She felt at times, as if her skin were a bag, filled almost to bursting with animalculæ. Another feeling which persisted through the early part of her illness, (three or four months,) was a sensation in the stomach similar to that we might expect a patient to suffer if that organ were pounded: this prevented her from laying on either side while it continued, and was succeeded by an aching and burning in the lumbar region, and severe pain in the os coccygis. The spine became stiff; she could bend it laterally and anteriorly, but not posteriorly, in the slightest degree: some firm substance seemed to cover its anterior surface, in the lumbar region: this feeling continued until relieved by death, and prevented her from resting supinely a moment. At times she suffered much from numbness in her left leg: prolapsus uteri; nervous irritability of her womb; uneasiness and pain in loins—which last symptom commenced two months after her fall, and ended with her life; an unpleasant burning, nervous sensation in the brain; slight derangement of the digestive powers; hepatic torpidity, with proportionate costiveness; acidity of the stomach; flatulency, and disturbed sleep. A moderate leucorrhœal discharge was ever present, and prominent symptoms of tympanitis uteri troubled the patient, from October, 1844, until she became enciente, in Sept. 1845, and returned, after parturition, in June, 1846. She suffered much from pain in vagina; this organ was diminished in capacity, from swelling of its parietes, and this state, with enlargement of the adjacent parts, prevented the prolapsus uteri from being as prominent as it otherwise would have been. During the period of utero-gestation, she suffered less than before its commencement, and quite as little in parturition, as with either of the three children she had given birth to before the injury. Her fourth child weighed eight pounds and two ounces, and was perfectly formed. She seemed as well after confinement, as before gestation, until August 22d, 1846, when a

* This Dr. B. has found in many instances to produce a most happy effect upon enlarged and inflamed blood-vessels, appearing to restore their tone, and enable them to contract.

slight dysentery commenced; on the 23d she complained of a feeling of distension in her stomach, attributed by her, to the presence in that viscus, of bile; which secretion she continued to spit up, and declared that she suffered "*agony, dying agony*," from the extreme distension. These symptoms continued until a few minutes before her death, August 29th."

Post-mortem.—"The broad ligaments were ruptured, from the fundus to the convex uteri; the womb lay upon the sacrum, and evidently rolled from side to side of the pelvis, as the patient turned in bed. The vessels, in the lacerated part of the broad ligaments, resembled a black vermicular mass. The neck of the bladder, with every part within the pelvis, was much tumefied, and there was considerable engorgement of all the pelvic blood-vessels. The lumbar vertebræ were ulcerated and abraded to the amount of nearly one-half their transverse diameter, and the remaining part had lost its firmness. The posterior part of the intervertebral ligaments seemed too thin, and the longitudinal measurement of the lumbar vertebræ, posteriorly, was much diminished by absorption—hence the anterior curvature, and the inability to bend the spine backwards. The periosteum covering the sides of the lumbar vertebræ, was of a dark blue colour, and so thin as to be easily removed with the finger nail. *The spinal marrow was perfectly sound.* The irritability of, and feeling of distension in, the stomach, at the climax of the disease, were caused by an excited state of the semilunar ganglion and solar plexus."

Blindness caused by the use of Sulphate of Quinine. By JOHN M'LEAN, M. D., Prof. of Mat. Med. in Rush Med. Coll., (*Illinois and Indiana Med. and Surg. Journ.*, Dec. 1846.)—It is familiar to every practitioner that the free administration of quinine often causes tinnitus aurium, fullness in the head, and deafness; and blindness, though the fact is less generally known, also sometimes results. Dr. M'LEAN relates four cases in which blindness seems to have been produced by large doses of quinine.

"CASE I.—Mr. P., of the town of Barry, Jackson Co., was in the year 1840 attacked with a low grade of remittent fever, the nature of which was such as to cause the attending physician to administer the sulph. quinine in large and frequent doses. Sixteen grains, (as judged by sight,) were ordered every hour, and continued until nearly one ounce was taken. Before the quinine was discontinued, he became perfectly blind, which, with a slow and gradual amendment continued during the first year. Later than this, I have not been positively informed in regard to the case, but should judge, from what indirect information I have received, that his sight is not yet perfectly restored.

"CASE II.—Mrs. B., of the town of Concord in this county, was, a few years since, reduced so low by the endemic fever of the country, that her life was despaired of. As a last resort, large quantities of quinine were given, and while taking it she became blind, which continued for several weeks. As she recovered her health, the blindness gave way, and her sight was finally restored. Not being acquainted with the particulars of this case, I can give but these few general outlines.

"CASE III.—P. M. Everett, of this place, was, in the autumn of 1843, attacked with remittent fever, and in a few days became so greatly reduced, as to leave but slight hopes of his recovery. Sulph. quinine was therefore prescribed, in doses averaging three grains, every hour, and was continued for three days. In a short time, he became deaf, and soon after, so blind that he could not see a burning candle, when placed immediately before his eyes. The blindness took place on the third day after the commencement of the free administration of the sulph. quinine. Previous to this, and at this time, his mind (with the exception of occasional slight wanderings) appeared to be perfectly clear. After some weeks, his sight became partially restored, but continues more or less imperfect, even at the present time.

"During the greater part of the first year, he could look steadily at the sun without seeing it, or even any painful sensation being produced. When he first began to see sufficiently to read, which was in the course of the first year, he could perceive but a small luminous spot upon the paper, about one inch in diameter, within which he could distinguish letters, but all without this was cloudiness and

confusion. During this time, the pupils were very much dilated, and he could see objects at a distance much better than those near by. His sight has continued to improve ever since; and at the present time, although quite imperfect, is sufficiently good to enable him to read and write, although with some difficulty. The pupils are still considerably dilated, and it is with great difficulty that he can discern objects by twilight. The direct rays of the sun upon the head, produce pain there, accompanied with a painful sensation, deep in the orbit of the eye, and a disordered vision. At the present time, exercise easily produces fatigue, by which his sight is much impaired.

"CASE IV.—In the month of April, 1846, Dr. R., of this place, took in doses of six grs. each, three drachms of quinine in 36 hours; at the expiration of which time, he became perfectly blind. His hearing was somewhat blunted, although it did not, in degree, equal the blindness. On the two succeeding days his sight, although very imperfect, was considerably restored. Had he lived, the probability is, that this imperfect sight would, as in the former cases, have continued a considerable length of time."

It is to be regretted that more precise details of these cases are not given; nevertheless, the author has probably referred the blindness to its true cause. In the previous part of this number, p. 293, will be found another case of a similar character. Trousseau also relates a case in which, after a dose of 48 grains of sulphate of quinine, the patient became temporarily blind and deaf.

Speculations on the Cause of Yellow Fever. By JOHN HARRISON, M. D., Prof. of Physiol. and Pathol. in Med. College of Louisiana. (*New Orleans Med. and Surg. Journ.*, March, 1847.)—In this very interesting paper the author gives the following concise summary of certain general facts in relation to the cause of yellow fever, which he believes to be undisputed, and several of which are of general notoriety.

"1. The yellow fever of Louisiana only makes its appearance where persons are collected in crowds, as in cities, watering places, etc. Persons who live in the country and confine themselves to it, though they be as unacclimated as any others, and as liable to the disease, are, nevertheless, perfectly safe from attack.

"2. The production of yellow fever in New Orleans cannot be attributed to marsh malaria, or to any kind of agents generated by swamps, marshes, pools, or standing water of any kind; since we know that unacclimated persons may reside in the midst of swamps, and enjoy perfect health, whilst the city is being ravaged by the pestilence. This is a truth known to most of the inhabitants of this city; and a striking example occurred within my own experience during the epidemic of 1837. The New Orleans and Nashville Railroad Company owned a number of unacclimated negroes who were at work on the line of road traversing the swamp from the city to the lake. On the breaking out of the epidemic, I directed the overseer to permit none of them to enter the city. In one instance the order was neglected: the slave was kept at work in the city for two or three days;—returned to the Metairie Ridge where the negroes were quartered, and was seized the same day with the fever. This was the only case that occurred among them.

"3. The opinion that the disease is owing to miasm, brought by the north wind which generally prevails during the epidemic season, is therefore erroneous, since persons living in those very swamps which the north wind traverses are exempt from attack, provided they keep away from the city. On the other hand, the south and southwest winds, which prevail at other seasons, traverse to reach New Orleans, swamps even greater than those passed over by the north wind.

"4. The disease has been attributed to miasm generated by a part of the bed of the Mississippi laid bare at low water; but it is well known that a healthier region than that called the *Coast* is rarely to be met with in any country. This tract of land lies immediately on both banks of the river; and it is well known that unacclimated persons who spend the summer there, enjoy perfect health. Moreover, most of the inhabitants are themselves unacclimated and are as liable to yellow fever as any other people when so imprudent as to visit the city during an epidemic.

"5. Persons who arrive in the city during an epidemic from the healthiest regions—even by the ocean, are subject to attack on the 6th, 5th, 4th, and even as

early as the third day after their arrival. Cases of attack on the third day after arrival were not uncommon during the epidemic of 1837. It is plain that those persons were subjected to the influence of some powerful local agent, which existed previous to their arrival.

"From these facts it is obvious that the yellow fever of New Orleans arises from causes peculiar to the city, and which are confined to it, or to it and its immediate neighbourhood."

The theory which Dr. H. maintains of the etiology of yellow fever, may be thus stated:—"From the accumulation of filth in large cities (chiefly night-soil and the animal matter of urine), putrefaction must necessarily take place, and from this putrefaction, *under certain meteorological conditions*, there is generated a poison, which, either in the form of a volatile oil, or other organic matter, held in solution by ammonia, floats in the atmosphere; is inhaled during the respiratory movements; is taken into the circulation and poisons the system. It produces specific effects, as much so as the matter of small-pox or scarlatina.

"The formation of this poison begins under certain meteorological conditions, which are utterly unknown to us, continues while they last, and ceases with them. As we have said before, the poison is not a gas, but a volatile substance, constituted of organic matter, as much so constituted, as the matter of small-pox or hydrophobia."

In his opinion "yellow fever does not depend on putrefaction alone, nor on meteorological influences alone, but on both conjoined; when this conjunction occurs, seething laboratories of poison are put in operation at different points of the city."

Foreign Bodies in the Organs and Tissues of the Body. By W. B. HERRICK, M. D., Prof. of Anatomy in Rush Med. College. (*Ill. and Ind. Med. and Surg. Journ.*, June and July, 1846.)

CASE I.—In the fall of 1843, Dr. H. was called to see a farmer, of good constitution, who had been suffering, during the 24 hours previously, with the most excruciating pain in and around the knee joint, extending upwards to the hip, and downwards to the foot. Limb high-coloured, swollen, and very tender, pulse 100 and full. While labouring in the field about two months previous to this time, he had felt a slight pricking sensation in the integuments covering the joint. Upon examination, a slightly reddened point was discovered, but there being no other evidence of injury, and as exercise caused no inconvenience, he continued his labours up to the time of the inflammatory attack. Under the influence of antiphlogistic treatment, both general and local, the inflammatory action gradually subsided, and in about ten days all signs of disease had disappeared from the affected part.

About six months subsequent to this attack, he suffered as before, with symptoms similar in every respect to those above mentioned. The treatment, this time, though actively antiphlogistic, did not prevent the formation of an abscess in the cellular substance around the joint, which continued to discharge for two weeks, when it healed, leaving no bad effects, apparently, excepting a slightly contracted condition of the muscles of the limb.

In about a year after this the patient was brought upon his bed for the third time, with symptoms identical with the former. An abscess formed as before, which continued to discharge for two or three months, at the end of which time, his medical attendant, while passing a probe into the abscess, discovered a foreign substance imbedded in its walls, which, being withdrawn, proved to be the sharp point of a thorn, a half inch or more in length. After its removal, as may be supposed, the abscess healed kindly, and all traces of disease of the leg and knee rapidly disappeared.

CASE II.—A. H., a carpenter, about 25 years of age, of good constitution, and in robust health at the time, was suddenly attacked with cough, profuse expectoration, and difficult respiration, with slight febrile excitement. For two years after this attack, these symptoms became more and more alarming, his sufferings were almost insupportable; and at the end of that time, these apparently characteristic symptoms, his emaciated condition and depressed physical powers, impressed the conviction upon himself and medical advisers, that he was about to fall a victim to consumption.

Some time afterwards, during one of the violent fits of coughing, to which he was subject, a foreign substance, which proved to be a fish bone, cuboidal in shape, and a half-inch or more in diameter, was suddenly and forcibly ejected from the laryngeal opening upon the floor.

From this time forward, all the alarming symptoms began rapidly to abate, and at this time two years since, the individual above named is in perfect health.

The patient then recollected that a month or two previous to the appearance of the above named symptoms, while dining upon fish, he inhaled as he supposed a small portion into the air passages, but as it gave him but little trouble at the time, he thought no more of it, and did not, during his illness, suspect even the true cause of his sufferings.

CASE III.—An individual fell upon the extremity of a blunt stick; which, piercing the clothing and integuments, passed into the cellular substance surrounding the lower part of the rectum. The opening thus produced assumed the character of a fistula, and remained open for a long time after the accident. The operation of laying open the cavity was at length performed which resulted in the discovery of a piece of cloth imbedded in the tissue at the bottom of the ulcerating canal.

Case of Empyema in which the operation for Paracentesis thoracis failed from a cause not generally noticed. By JOHN A. SWETT, M. D. (*New York Journ. of Med.*, Jan. 1847.)—The cause of failure in evacuating the pus in this case, was the existence of a false membrane lining the pleura costalis, and so loosely attached to it, as to be pushed before the point of the instrument, so that the cavity containing the pus was not opened. The possibility of this source of failure, is important to be borne in mind, and its occurrence should be guarded against by using a very sharp instrument.

Rheumatism with Hypertrophy of both Eyes. By WM. M. M'PHEETERS, M. D. (*St. Louis Med. and Surg. Journ.*, Aug., 1846.)—This case seems to have been one of periostitis of the orbit, or of rheumatic inflammation of the tunica vaginalis oculi, (see *Lawrence's Treatise on the Eye*, 2d Am. ed., p. 777 et seq.,) it is impossible from the imperfect details given to determine which, but it is interesting as affording additional evidence of the efficacy of the iodide of potassium in those complaints.

The subject of the case was a negress 15 years of age attacked in January, 1845, with intermittent fever which continued until late in the fall, with a severe pain in and over each eye, extending through to the back part of, and on either side of the head. This pain continued without intermission until the approach of warm weather, in April, when it gradually ceased. Dr. M. saw her once during this attack; the pupils of her eyes were perfectly clear and natural, exhibiting no unhealthy appearance whatever, either in size or colour. During the following summer she had occasional chills, which always yielded readily to the use of quinine; general health good, and presents no other marks of a strumous diathesis than is usually met with among negroes.

In January, 1846, the pain over the eyes and in the head again returned, but with much more severity than formerly; occasionally it was so violent as to throw her into convulsions. From the commencement of this pain the eyeballs began to enlarge and protrude, increasing as the pain continued until they became so large as to create alarm lest they should burst. In February, when the distension was very great, she was vomited every morning for ten or fifteen days with ipecacuanha, but without any material improvement, indeed the effort of vomiting rather increased the swelling of the eyes.

When seen by Dr. M'P. about the middle of March, she was "suffering the most excruciating pain in her head and eyes, which continued day and night—eyes immensely protruded, standing out an inch beyond their ordinary level, and presenting a hideous appearance—left eye larger than the right; a constant and copious flow of tears from both eyes; light very painful and sight imperfect. The eyelids, though greatly distended, could not reach entirely over the balls so as to protect them from the light; they were partially paralyzed by the distension and required to be moved by the fingers. No appetite; emaciation great; skin dry and husky; tongue covered with a thick, dark-coloured coat."

Dr. M'P. ordered her five grains of the hydriodate of potash, three times a day; to paint the eyelids daily with tincture of iodine—to keep a cloth wet with mucilage constantly over the eyes, for the purpose of excluding the light and keeping them moist—chronic blisters to the back of the neck; bowels to be kept open; frequent salt-water baths; and a mild, though nutritious diet. Under this treatment the patient improved rapidly—and when Dr. M'P. saw her again, May 5th, the pain had almost entirely gone; her eyes were very much reduced in size; appetite better; and her general condition improved. By the middle of May she was free from pain; her eyes were reduced down to the natural size; sight entirely restored; flow of tears arrested; and the patient so well as to be able to resume her ordinary duties as house servant. When seen on the 1st of July she had continued well.

On the cause of the Circulation of the Blood. By J. W. DRAPER, M. D., Prof. of Chem. &c. (Lond., Ed. and Dub. Philos. Mag., Jan. 1846.) *Explanation of the General Physical Principle.*—If, in a vessel, containing some water, a tube of small diameter be placed, the water immediately rises to a certain point in the tube and remains suspended.

Let the tube be now broken off below that point, and replaced in the cup of water; the liquid rises as before, but though it reaches the broken extremity it does not overflow. A capillary tube may raise water to its highest termination, but a continuous current cannot take place through it.

Now, suppose a rapid evaporation of the liquid to ensue from the broken extremity of the tube, as fast as the removal of one portion is accomplished others will rise through the tube, and in the course of time the vessel will be emptied. By evaporation from the upper extremity a continuous current is established; a spirit-lamp, with its cap removed, is an example of this fact.

Or, if the liquid which has risen to the upper end of the tube be of a combustible nature, oil, for example, and be there set on fire, as the process of combustion goes on a current will be established in the tube, as in a common oil-lamp in the act of burning.

The principle which I wish to draw from these well known facts is, that though ordinary capillary attraction cannot determine a continuous flow of a liquid through a tube, there are very many causes which may tend to produce that result.

If a given liquid occupies a capillary tube, or a porous or parenchymatous structure, and has for that tube or structure at different points affinities which are constantly diminishing, movement will ensue in a direction from the point of greater to the point of less affinity. Or thus:

If a given liquid occupies a capillary tube, or a porous or parenchymatous structure, and whilst in that tube or structure changes happen to it, which tend continually to diminish its attraction for the surface with which it is in contact, movement will ensue in a direction from the changing to the changed fluid.

Application of this principle to the circulation of the blood.—Let us now apply these principles to some of the circulations which take place in the human system, and select for that purpose the four leading forms, the systemic, the pulmonary, the portal and the placental circulation.

The Systemic Circulation.—The arterial blood, which moves along the various aortic branches, contains oxygen which has been obtained in its passage over the air-cells of the lungs, an oxidation which is indicated by its bright crimson tint. On reaching its final distribution in the tissues, it effects their oxidation, producing heat; and as it loses its oxygen, and receives the metamorphosed products of the tissues, it takes on the blue colour characteristic of venous blood.

If now we contrast the relations of arterial and venous blood to the tissues, it is obvious that the former, from the fact that it can oxidize them, must have an intense affinity for them; but the latter, as it is the result of that action after all affinities have been satisfied, must have an attraction which is correspondingly less.

Arterial blood has therefore a high affinity for the tissues; venous blood little or none. But the change from arterial to venous blood takes place in the manner I have just indicated; and therefore, upon the first of the foregoing general rules, motion will take place, and in a direction from the arterial to the venous side.

By the deoxidizing action of the tissues upon the blood, that liquid ought upon these principles to move from the arteries into the veins, in the systemic circulation. The systemic circulation is therefore due to the deoxidation of arterial blood.

The Pulmonary Circulation.—In this circulation venous blood presents itself on the sides of the air-cells of the lungs, not to carbonaceous or hydrogenous atoms, but to oxygen gas, which being the more absorbable of the constituents of the air, is taken up and held in solution by the moist walls of those cells. Absorption of that oxygen takes place, and arterialization is the result. The blood from being blue turns crimson.

What now are the relations between venous and arterial blood and oxygen gas? For that gas venous blood has a high affinity, as is shown by its active absorption; but this affinity is satisfied and has ceased in the case of arterial blood.

The change from venous to arterial blood, which takes place on the air-cells which are charged with oxygen gas, ought upon these general principles to be accompanied by movement in a direction from the venous to the arterial side.

The pulmonary circulation is due to the oxidation of venous blood, and ought to be in a direction from the venous to the arterial side.

The Portal Circulation—Two systems of forces conspire to drive the portal blood out of the liver into the ascending cava.

1st. The blood which is coming along the capillary portal veins, and that which is receding by the hepatic veins, compared together as to their affinities for the structure of the liver, have obviously this relation—the portal blood is acted upon by the liver, and there are separated from it the constituents of the bile; the affinities which have been at work in producing this result have all been satisfied, and the residual blood over which the liver can exert no action constitutes that which passes over into the hepatic veins. Between the portal blood and the structure of the liver there is an energetic affinity, betrayed by the circumstance that a chemical decomposition takes place, and bile is separated; and that change completed, the residue, which is no longer acted upon, forms the venous blood of the hepatic veins.

2d. The blood of the hepatic artery, after serving for the œconomic purposes of the liver, is thrown into the portal plexus. Hence arises a second force. The pressure of the arterial blood in the hepatic capillaries upon this is sufficient not only to impel it into the capillaries of the portal veins, but also to give it a pressure in a direction towards the hepatic veins; for any pressure which arises between the arterial blood of the hepatic, and its corresponding venous blood, must give rise to motion towards the hepatic veins, no regurgitation can take place backward through the portal vein upon the blood arriving from the chylopoietic viscera, because along that channel there is a pressure in the opposite direction, arising from the arterial blood of the aortic branches. The pressure therefore arising from the relations of the hepatic arterial blood conspires with that arising from the portal blood, and both together join in giving rise to motion towards the ascending cava.

The Placental Circulation.—The umbilical arteries carry in their spiral courses, as they twist round the umbilical vein, the effete blood of the fœtus, and distribute it by their ramifications to the placenta. In that organ it is brought in relation with the arterial blood of the mother, which oxidizes it, becoming by that act deoxidized itself. The fœtal blood now returns along the ramifications of the umbilical vein, and finally is discharged from the placenta by that single trunk.

That this is truly a change similar to that which is accomplished in the adult lungs, is shown by the circumstance that the blood of the umbilical arteries becomes brighter on its passage into the umbilical vein.

As the venous blood of the fœtus is thus oxidized by the arterial blood of the mother, movement must of necessity ensue in it, on the same principle that it ensues in the adult lung, and must take place in the same direction, that is to say, from the venous to the arterial side.

Ischuria Renalis.—Dr. R. E. LITTLE, of Quincy, Florida, reports in the March number of the *Southern Med. and Surg. Journal*, a case of ischuria renalis, occurring in a mulatto girl 18 years of age, which is remarkable for recovery having taken place after a total suppression of the urinary secretion for ten days. During the

whole of this time the sensorium of the patient was affected; at one time she was delirious and at another comatose. Her complaint seems to have been a form of hysteria.

Strychnine in Chorea.—Dr. B. R. HOGAN relates in our esteemed cotemporary, the *New Orleans Med. and Surg. Journ.*, (Sept. 1846,) two cases of chorea successfully treated by strychnine in doses of $\frac{1}{20}$ th of a grain three times a day.

He says also that he has "used strychnine with much advantage, as a tonic in the convalescence from intermittent and congestive fevers. No relapse of the latter has followed its use.

"In *subsultus tendinum*, from extreme exhaustion, in an anæmic patient, with diarrhœa, I found it a most valuable combination with the *persequi-nitratis ferri*.

"In the atonic dyspepsia of the habitual drinker who wishes to become a *teetotaler*, it has a comforting and permanent value.

"The experiments of Magendie and Andral prove that strychnine is rapidly absorbed, and enters the circulation; those of Vernière and Segalas, that the blood is changed by its admixture, and we are admonished to be cautious in continuing its use too long, as we are told that from its influence upon the blood, in changing its constituents in some unknown manner, it frequently reacts upon the brain and nervous system, causing convulsions, spasms, paralysis and death!

"These grave consequences admonish us not to continue it too long. I look upon it as a potent and valuable agent, and one whose use as a therapeutic will be greatly extended, as its valuable tonic properties are appreciated."

Excision of the Inferior Maxillary Bone for Osteo Sarcoma. By WM. H. DEAD-ERICK, M. D., of Athens, Tenn. (*Western Journ. of Med. and Surg.*, Jan., 1847.)—This is a brief account of an operation performed thirty-seven years ago, and of which a fuller description was published in the *American Medical Recorder* for 1823, p. 516. We notice it merely because a claim is made, with apparent justice, to its having been the first operation of the kind performed, (having preceded that of Dupuytren two years,) and the operator has not had awarded to him the credit to which he is entitled.

Imperforate Prepuce. By Dr. D. J. C. CAIN. (*Southern Journal of Medicine and Pharm.*, Jan., 1847.)—We have often met with cases in which the opening in the prepuce was extremely small, but we do not remember to have seen an example, or to have read any account of one in which the prepuce was imperforate, except the following. The child was born on Sunday, 25th of October, about 1 o'clock, P. M. The next day, (Monday,) the mother told Dr. C. that the child had not passed any water. On examination of the part, Dr. C. discovered that the prepuce had no orifice, but merely a fold of the skin simulating one. He performed, without delay, the operation of circumcision; and passed a probe in the urethra as far as its membranous portion, to satisfy himself that there was no obstruction in that part of the canal. He then directed the mother to inspect the napkin frequently, in order to ascertain if the child passed his water. At bedtime on Monday night, as the mother had not seen the napkin wet, a little spts. nit. dulc. was given in three doses. Up to six o'clock A. M. on Tuesday, he had not passed water, but on inspection of the dressings at 8 A. M., they were found soaked with urine, forty-two hours having elapsed from the birth of the child until the excretion of urine took place. What is somewhat remarkable in this case, is the circumstance of there not having been, to all appearance at least, any exit of urine from the bladder into the sack of the prepuce. The probability is, that there was no secretion for several hours after birth, as no prominence of the bladder was perceptible, and the child was not fretful, and indeed did not seem at all incommoded, as would have been the case, had the bladder been distended with urine which could not find an exit.

Medical Schools of the United States. Dr. JAS. COUPER, of New Castle, Delaware, chairman of the committee, appointed by the National Medical Convention at its meeting in New York in May last, to report on

the standard of acquirements which should be exacted of students of medicine, has politely communicated to us the following list of the medical schools of the Union, which we publish, as it may be useful for reference.

MEDICAL SCHOOLS.	Location.	When founded.
1. Medical School of Maine,	Brunswick, Maine.	1820.
2. New Hampshire Medical School,	Hanover, N. H.	1797.
3. Vermont Medical College,	Woodstock, Vt.	1835.
4. Castleton Medical College,	Castleton, Vt.	1818.
5. Massachusetts Medical College, (Harvard)	Boston, Mass.	1782.
6. Berkshire Medical Institution,	Pittsfield, Mass.	1823.
7. Medical Institution of Yale College,	New Haven, Conn.	1810.
8. University of the State of New York, (College Phys. and Surg.)	New York City.	1807.
9. University of the city of New York.,	New York City.	1837.
10. Albany Medical College,	Albany, N. Y.	1839.
11. Med. Department of Geneva College,	Geneva, N. Y.	
12. Buffalo Medical College,	Buffalo, N. Y.	1846.
13. Medical Department of the University of Pennsylvania,	Philadelphia, Pa.	1765.
14. Jefferson Medical College of Philadelphia,	Philadelphia, Pa.	1824.
15. Medical Department of Pennsylvania College,	Philadelphia, Pa.	1839.
16. Franklin Medical College of Philadelphia,	Philadelphia, Pa.	1846.
17. Philadelphia Medical College,	Philadelphia, Pa.	1847.
18. Faculty of Physic of the University of Maryland,	Baltimore, Md.	1807.
19. Washington Medical College,	Baltimore, Md.	1827.
20. Medical Department of the Columbian College,	Washington, D. C.	1825.
21. Medical Department of Hampden Sydney College,	Richmond, Va.	1838.
22. Medical School of the University of Virginia,	Charlottesville, Va.	1825.
23. Winchester Medical College of Virginia,	Winchester, Va.	
24. Medical College of the State of South Carolina,	Charleston, S. C.	1833.
25. Medical College of Georgia,	Augusta, Ga.	1830.
26. Medical College of Louisiana,	New Orleans, La.	1835.
27. Memphis Medical College,	Memphis, Tenn.	1846.
28. Medical Department of Transylvania University,	Lexington, Ky.	1818.
29. Medical Department and University of Louisville,	Louisville, Ky.	1837.
30. Ohio Medical College,	Cincinnati, O.	1819.
31. Medical Department of Willoughby University,	Columbus, O.	1834.
32. Western Reserve College,	Cleveland, O.	1844.
33. Rush Medical College,	Chicago, Ill.	1843.
34. Medical Department of Illinois College,	Jacksonville, Ill.	
35. Indiana Medical College,	La Porte, Inda.	
36. Medical Department of the University of Missouri,	St. Louis, Mo.	1841.
37. Medical Department of St. Louis University,	St. Louis, Mo.	1836.

Inhalation of Ether. By J. MASON WARREN, M. D., one of the Surgeons of the Mass. Gen. Hospital. (*Boston Med. and Surg. Journ.*, March 24, 1847.)—In this interesting paper the author gives the histories of nineteen cases of surgical operations performed on patients rendered insensible, by inhalation of ether, with the view of furnishing materials for the solution of the important questions, relative to its effects on persons of different ages, sexes and temperaments, to what class of patients it is applicable, when its use should be desisted from, and also, what length of time the inhalation may be continued. The following are his results.

"We need not dwell," he remarks, "upon the mode in which ether produces the peculiar effects recorded, whether immediately through the nerves of the mucous membrane, or by being imbibed into the pulmonary blood. Dr. Charles T. Jackson informs me, that in order for the inhalation to produce the full and desired effect, rectified sulphuric ether in its purest state should be used, entirely free from alcohol. It thus becomes much less irritating during the inhalation, with more decided effects at the time, and none of those subsequent unpleasant symptoms, which would occur from ether in its ordinary state.

"The following conclusions present themselves, which admit of being arranged under three distinct heads.

"A. *As to Age and Temperament.*—1st. Young children and females seem most easily to be brought under its influence.

"2d. Females of nervous temperament are not unfrequently brought to a condition closely resembling hysteria.

"3d. Men of powerful muscular frames sometimes become violently frantic at first, requiring the exertions of several persons to restrain them. This state is succeeded by one of semi-consciousness, but also of insensibility to pain.

"B. *As to the Method to be employed.*—1st. The use of the ordinary inhaling apparatus seemed in many cases to occasion at first irritation and choking.

"2d. This irritation either does not exist, or in a less degree, in cases where wet cloth or sponge has been used, which has been pretty extensively used at the Hospital, and in private practice, by Dr. J. C. Warren and myself.

"3d. In many cases it is impossible, in consequence of the tender age of the patient, or his refractory nature, to make him comprehend the use of the ordinary apparatus, and here the cloth or sponge will be found of great service.

"4th. A quieting effect is produced even when ether is sprinkled upon the bed clothes, or a sponge moistened with it is laid upon the pillow; thus sometimes superseding the use of an opiate.

"C. *As to its Influence and Effect.*—1st. When the effect is perfect, the patient having recovered, generally expresses himself as previously under the influence of a pleasant dream, notwithstanding the severity of the operation.

"2d. A partial effect is often produced, in which the patient is entirely free from pain, but yet conscious of the different steps of the operation. Uneasiness, apparently the result of suffering, is in these instances generally referred to a disagreeable dream, or to some cause not immediately connected with the operation.

"3d. In some cases asphyxia is produced, requiring the admission of fresh air, with the use of frictions, to the patient, and in the most severe cases the internal administration of stimulants.

"4th. Repetition increases the susceptibility so far as observed.

"5th. No limit of time can as yet be assigned at which its use becomes unsafe. In one instance here recorded, the patient was kept under its influence for a half, and in another, for three-quarters of an hour.

"6th. The effect is generally evanescent, and the patient being spared the shock of severe pain upon his system, seems to recover more rapidly than in ordinary cases. Out of more than fifty instances, which have fallen under my observation, I am not aware of a single one, in which its use has proved permanently deleterious.

"7th. Various observations show, that when the patient is to undergo a severe operation under the influence of the ether, its application should be employed repeatedly before the day of the operation, as well to instruct him how to respire it thoroughly, as to ascertain the peculiar manner in which it affects him."

Absence of one Kidney.—Dr. GEO. N. BURWELL, of Buffalo, in examining a patient who died of diabetes and anasarca, found the kidney and ureter of the left side entirely wanting, no trace of them was to be found in any part of the abdomen.—*Buffalo Med. Journ.*, Dec. 1847.

Dislocation of the Elbow.—Prof. BRAINARD, of Chicago, records in the *Ill. and Ind. Med. and Surg. Journ.*, March, 1847, a case of dislocation of both bones of the forearm backwards, of five months and thirteen days' standing, in a youth 19 years of age, which he successfully reduced.

Presentation of the shoulder,—prolapsed cord,—cord not pulsating, yet child born alive.—By C. R. GILMAN, M. D., Prof. of Obstet. in Coll. Phys. and Surg. N. York. (*Annalist*, 15 Nov. 1846.)—This case is interesting as forming an exception to the rule that when the prolapsed cord has ceased to pulsate the child is dead. The subject of it was a lady in labour with her third child. The shoulder presented by its anterior surface, the clavicle occupying the centre of the os uteri. A large fold of cord protruded from the vagina, and hung pulseless between the thighs. The soft parts were well dilated, and the uterine action not excessive. Prof. G. introduced his hand, turned the child, and delivered by the feet, without difficulty or delay. The child was asphyxiated, but by frictions with hot flannels and an occasional dash of cold water upon the chest, respiration was excited in less than half an hour.

National Medical Convention.—On the first Wednesday in May next, a National Medical Convention will assemble at Philadelphia, to deliberate on the means which should be adopted to improve medical science, to increase the usefulness, to elevate the character and standing, and to protect the interests of the profession. That imperfections, abuses and grievances exist which ought to be corrected is universally conceded, though it is equally admitted that there are difficulties in the way of remedying them. The convention, however, will comprise representatives from nearly all the states of the Union, will embrace many of the ablest and most eminent men in the country, and it cannot be doubted that their united wisdom will devise the means of accomplishing the objects for which they will assemble. The members, coming from every section of the confederation, will know the wants of all, and the aim which they will keep steadily in view, will be “the greatest good of the greatest number.” The deliberations of this body, we confidently predict, will be marked by the dignity, courtesy, and propriety which should characterize the practitioners of the noblest of professions,—that every consideration and respect will be paid to existing rights, to personal feelings, and even individual prejudices, and finally, that such measures as may be deemed judicious will be adopted with harmony, and carried into effect with entire unanimity.

Even if nothing more is accomplished than the formation of a NATIONAL MEDICAL ASSOCIATION to meet annually in one of our larger cities,—the adoption of a general code of medical ethics—the arousing of a proper *esprit de corps*, and giving a proper direction to the impulse to progress which everywhere prevails, an infinite amount of good will be effected.

The following is the list of delegates as far as we have been able to procure them, but we know that many more have been appointed whose names have not yet reached us.

Delegates to National Medical Convention.—The following delegates have been appointed to the National Med. Convention. In addition, we know that delegates have been appointed from Connecticut, Delaware, and Louisiana, but the names of the delegates have not yet been communicated to us.

VERMONT.—Drs. Chas. Hall, C. W. Horton, A. G. Dana, and Dyer Story.

MASSACHUSETTS.—From the *Massachusetts Medical Society*, Drs. S. W. Williams, of Deerfield, E. Hale, of Boston, E. Huntingdon, of Lowell, A. L. Pierson, of Salem, R. Fowler, of Stockbridge, J. V. C. Smith, of Boston, L. Bartlett, of New Bedford, E. W. Carpenter, of Sandwich, W. Bridgeman, of Springfield, O. W. Holmes, of Boston, and Geo. C. Shattuck, jr., of Boston.

RHODE ISLAND.—From the *Rhode Island Medical Society*, Drs. Theophilus C. Dunn, Usher Parsons, Richmond Brownell, and George Carpenter.

NEW YORK.—From *New York State Medical Society*, Drs. John Stearns, J. W. Francis, J. C. Cheeseman, J. R. Manley, E. G. Ludlow, J. A. Wing, Danl. Ayres, T. W. Blatchford, Darius Clark, Morgan Snyder, Jas. S. Sprague, J. M'Call, A. Willard, N. S. Davis, P. H. Hard, Maltby Strong, Alexr. Thompson, L. T. Tefft, G. W. Bradford, Enos Barnes.

From *New York Academy of Medicine*, Drs. J. Stearns, F. C. Stewart, J. R. Wood, D. H. Bulkley, V. Mott, E. Delafield, J. C. Bliss, R. S. Kissam, D. M. Reese, E. L. Beadle, J. Linsley, O. S. Bartles, C. S. Smith, M. Hoit, W. H. Van Beuren, J. O. Pond.

From *New York Medical and Surgical Society*, Drs. J. A. Swett, J. G. Adams, A. Dubois, A. C. Post, W. P. Buel.

From the *New York Hospital*, Drs. John Watson, and Jno. H. Griscom.

From *Albany Medical College*, Profs. Marsh, J. M'Naughton, T. R. Beck, and Hun.

From Faculty of *Geneva Medical College*, Profs. C. A. Lee, C. B. Coventry, and J. Webster.

From *Faculty of Medicine of Buffalo University*, Prof. F. H. Hamilton, Austin Flint, J. P. White, and Geo. Hadley.

NEW JERSEY.—From *Medical Society of New Jersey*, Drs. Smith and Pierson, of Essex, C. Marsh, of Passaic, Stewart, of Morris, Forman, of Mercer, Parrish, of Burlington, Taylor and Cooper, of Camden, Garrison, of Gloucester, and Howell. From *District Medical Society of Burlington*, Drs. Cole, Stratton, and Read.

PENNSYLVANIA.—From *College of Physicians of Philadelphia*, Drs. T. T. Hewson, I. Hays, S. Jackson, J. W. Moore, A. Stillé, J. R. Paul, W. Pepper, G. Fox, C. Morris, D. F. Condie, J. Randolph, R. C. Bridges, C. D. Meigs.

From *University of Pennsylvania*, Profs. N. Chapman, S. Jackson, Geo. B. Wood.

From *Jefferson Medical College*, Profs. Bache, Mitchell, and Mütter.

From *Med. Dep. of Pennsylvania College*, Drs. Atlee, Patterson, and Wiltbank.

From *Franklin Medical College*, Profs. Rogers, Tucker, and Joynes.

From *Philadelphia Medical College*, Profs. Burden and M'Clintock.

From *Philadelphia Medical Society*, Drs. Bell, Emerson, Parrish, Norris, West, Ashmead, B. H. Coates, Bond, Morton, Yardley, Griscom, and Rodman.

From *Northern Medical Association of Philadelphia*, Drs. Janney, Naudain, Uhler, Remington, M. B. Smith, and Jewell.

From *Lancaster Co. Medical Society*, Drs. Humes, Alee, Kerfoot, Eshleman, Winters, sen., Duffield, and Carpenter.

VIRGINIA.—*Medical Convention of Virginia*, Drs. Welford, of Fredericksburg, Cabell, of the University, W. A. Patteson, of Richmond, and M'Guire, of Winchester.

OHIO.—*Ohio Medical Convention*, Prof. Wright, of Med. Coll. of Ohio, Prof. St. John, of Med. Coll. of Cleaveland, and Prof. Butterfield, of Med. Coll. of Wilmoughby.

GEORGIA.—*Medical College of Georgia*, Profs. Dugas, and Garvin.

MISSISSIPPI.—*Mississippi State Medical Society*, Drs. S. A. Cartwright, H. Lipscombe, — Monette, P. D. Ewing, J. S. Copes, Wm. R. Gist, O. L. Dewees, K. P. Alston, G. G. Banks, W. J. Leake, J. Andrews, Geo. Nicholson, G. Keirn, T. J. Catchings, W. Jamison, E. D. Turner, — Tackett, J. R. Sykes, — Kilpatrick, Wm. Balfour, — Davis, James Maynard, James Chamberlain, and S. C. Farrar.

KENTUCKY.—*University of Louisville*, Profs. Drake, Cobb, and Yandell.

MISSOURI.—*Medical Department of University of Missouri*, Prof. J. B. Johnson.

Medical Department of St. Louis University, Prof. H. M. Bullet.

Arrangements for the Meeting of the National Medical Convention.—At a meeting of the Delegates to the National Medical Convention from the city and county of Philadelphia, held at the Hall of the College of Physicians, March 9th, 1847, it was resolved to accept the polite offer made by the *Academy of Natural Sciences*, of the use of their spacious Hall for the meetings of the Convention; and the following committee was appointed to make the necessary arrangements for the meetings and deliberations of that body:—DRS. HAYS, CONDIE, EMERSON, FOX, BRIDGES, NORRIS, MORRIS, WEST, and PAUL.

The above committee, in furtherance of the objects of their appointment, invite the delegates to the National Medical Convention to meet at the Hall of the Academy of Natural Sciences, west side of Broad St., near Chestnut St., on Wednesday, May 5th, at 10 o'clock A. M.

The several standing committees appointed at the last Convention, are invited to meet at the same place on Monday morning, May 3d, at 10 o'clock.

To facilitate intercourse between the delegates, they are invited to report themselves as soon after their arrival in Philadelphia as convenient, to the committee of reception and arrangement, named above, who will be at the Hall of the Academy of Natural Sciences on the 1st, 3d, and 4th of May, from 10 A. M. to 3 P. M., and on the evening of the 4th of May from 7 to 10 o'clock.

The secretaries of the associations who will be represented are requested to transmit, at an early day, the names of their delegates to the chairman of the committee, Dr. I. Hays.

Resignation of Professor Warren.—It will be perceived from the following record, that Dr. John C. Warren has resigned the chair of anatomy and physiology, in Harvard University, Boston, which he has long filled with distinguished honour to himself, and great advantage to the school, and that the corporation of the University have shown their just appreciation of his valuable services by electing him Emeritus Professor of Anatomy and Surgery. In his retirement, the Professor will carry with him the best wishes of the profession, of which he has been a distinguished ornament, and for the advancement and improvement of which, we are sure, he will not cease to occupy himself. He has rich stores of experience to lay open, he is also engaged, we know, in scientific pursuits of great interest and importance, and we trust his life may be long spared for their completion, and to enjoy the honours he has justly earned.

At a stated meeting of the President and Fellows of Harvard University, in Boston, Feb. 27th, 1847, the President laid before the corporation the following communication from Dr. Warren, resigning his Professorship.

[Here follows in the records a copy of Dr. Warren's letter.]

Whereupon voted—That in accepting the resignation of Dr. J. C. Warren, as Hersey Professor of Anatomy and Surgery, this board is deeply sensible of the important services rendered to the University by Dr. Warren; and holds in grateful recollection the successful exertions made by him, for a period of more than forty years, and in continuance of those of his honoured father, to raise the character, and promote the interests of the medical school.

Voted—That Dr. Warren be requested to continue in the discharge of the duties of his office, till the close of the present Academic year.

Voted—That the President be requested to communicate to Dr. Warren a copy of the foregoing votes, with the assurance that this board cordially reciprocates the friendly and respectful sentiments expressed towards the corporation and the University, in his letter of resignation.

On vote, by ballot, Dr. John C. Warren was chosen Emeritus Professor of Anatomy and Surgery in the University, in consideration of his faithful and valuable services as Hersey Professor of Anatomy and Surgery.

A true copy of the record.

Attest, JAMES WALKER, *Secretary.*

New Medical Books.—The following medical books are preparing for publication by Messrs. Lea & Blanchard:—A new and enlarged edition of Dr. Bartlett's work on Fevers, for which the author has been some time engaged in collecting materials from various sections of the Union. An Analytical Compend of Examinations on the various branches of Practical Medicine, by Drs. Neill and Smith. A Universal Formulary and Pharmacy, by R. E. Griffith, M. D., in one vol. 8vo.

Elements of General and Special Therapeutics, by Dr. Stillé, in 1 vol. 8vo.

A new work on Bandaging, and other points of Minor Surgery, in 1 vol. 12mo.

A new Universal Dispensatory, with many wood-cut illustrations, in 1 vol. 8vo.

A Manual of Toxicology, by A. S. Taylor. Medical Botany, or a description of all the more important plants used in Medicine, their properties, uses, and modes of administration; with three hundred and fifty illustrations on wood; by R. E. Griffith, M. D., richly illustrated.

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